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PSYCHOLOGICAL AND PHENOMENOLOGICAL ASPECTS OF DISORDERS OF THE BODY IMAGE[1]

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I greatly appreciate the privilege of giving the Paul Schilder Memorial Address at this year's meeting. I am particularly pleased to do so in view of my long association with Paul Schilder both in personal friendship and scientific companionship, an association which lasted for many years. Our collaboration originated when among other things we found that we had certain fundamental concepts in common. These concepts, pertaining to the border-field between psychopathology and brain pathology, were: 1. The concept of an intricate interaction between the organic and the psychic apparatus; 2. The concept of a possibility of alteration of cerebral physiological mechanisms under the direct influence of psychological agents or psychogenic processes and, conversely, of the production of psychogenic-like or functional manifestations through cerebral lesions, in the early phases of their development; 3. The concept that there was no basic difference or real gap between the functional and the organic; 4. The concept regarding the nature of interrelation of brain function and brain pathology to psychology and psychopathology; 5. The concept of correlative physiodynamics and psychodynamics in the fields of neurology and psychiatry.

I have chosen as the topic of this memorial lecture a subject that is intimately related to an area of scientific activities which had occupied Schilder's pioneering and creative intellect for many years. Schilder rightfully looked upon the subject of the body image as one of the central problems of the science of mind and of mind's relation to brain, which could be solved only by careful study of the facts of brain pathology and psychology.

Let us first define briefly the concept of the body image, a term which has been employed by various authors as synonymous and interchangeable with the body schema or postural model of the body or perceptual body. This concept, which is concerned with body consciousness and its disorders of neuropsychological and psychopathological origin, can largely be attributed to Arnold Pick, Henry Head and Paul Schilder. It has, however, not attracted much attention among neuropsychiatric workers in previous years. This is apparent from the relative scarcity of adequate studies on the subject in the past. It was not until later years, greatly under the influence of Schilder's work and that of other authors at the Vienna neurologic-psychiatric school of the 1920's, that the concept of body awareness, or body image, has gained increasing interest in neurologic and psychiatric circles. The subject continues, however, to be beset with controversies and difficulties.

It is historically significant that the idea of body consciousness or the image of the human body was foreshadowed by Wernicke, more than half a century ago, in his brilliant concept of "somatopsyche", meaning the orientation in the sphere of the body, as distinguished from two other spheres of

[1] The Annual Paul Schilder Memorial Address given to the Society for Psychopathology and Psychotherapy at the New York Academy of Medicine, 1957.

orientation, his "allopsyche" (relative to the outer world), and his "autopsyche" (relative to the inner self). He referred to "somatopsychosis" with its familiar hallucinations or delusional disturbances in relation to the body. He was the first to recognize that the understanding of this whole psychological field required, among other things, the knowledge of the viewpoints of cerebral physiology and pathology.

By body image, or body schema, is understood the inner picture or model which one forms in one's mind, of one's body or one's physical self, in the course of life; and which one carries with one unwittingly, that is, outside of central consciousness. It is a kind of inner mental diagram representing one's body as a whole, as well as its single parts and territories according to their location, shape, size, structural and functional differentiation and spatial interrelation. It also represents the cardinal directions of the body; right and left, anterior and posterior, up and down. The body schema can thus be conceived of as a complex of intimately correlated and integrated individual schemas; some of them seem to predominate over the rest. There is conclusive evidence, on the basis of specific investigations, that sensory experiences arising from various areas and organs of the body, namely tactile, proprioceptive (including labyrinthine) and optic experiences, and probably to some extent other receptive factors (such as visceral sense-data); all contribute in the integration of the body image or schema to a highly organized arrangement. This is in the service of general and special recognition and orientation in the body sphere and, in a broader sense, of the relation of the body to external objects and space. Like all highly integrated neural arrangements, this is a process of physio-psychic activity. The specific psychic nature of the body image is essential in determining the particular forms assumed by the manifestations resulting from its disorders.

The body image is to be thought of not as something that is static, but in terms of a dynamic process that constantly repatterns itself under the continuous stream of influences exerted through the ever varying afferent impressions and perceptions. One's orientation in the body sphere depends, on the one hand, on the normal functioning of the specific central apparatus subserving the body image; and, on the other hand, on the fact that every sensory impression or perception evoked by postural, spatial or other change in one's body is being recorded in a constructive manner on the plastic body schema. Every new set of afferent impressions, in order to serve the orientation and recognition in the sphere of the body, must be brought into proper functional relation with the mechanism of the body image by the activity of the brain before they rise into consciousness. This relation gives them the intimacy characteristic of all experiences which one appropriates as one's own. Without that relation, the peripheral sensory impression results in an isolated perception accompanied by a feeling of estrangement and separation from the body. It is the relation between sensory impressions and body schema also that determines their definite perceptional, imaginal and conceptual elaboration, and gives them their final significance. The act of recognition of, and orientation as to a body territory, or a bodily alteration, of whatever importance and nature, is effected if the sensory impressions entering into awareness are charged with a complete relation to the differentiated physiological and psychological dispositions of the body image; a relation going on at unconscious levels, but reflecting into, or permeating, the sphere of conscious cognition and ideation.

The body image may extend beyond the confines of the body. It has been shown by Schilder that things such as a stick regularly used for walking, a hat, hairdressing, tattooing, painting of lips and face, jewelery, decorations, any kind of clothes,—whatever comes into intimate connection with surface-

areas of the body and causes a change in its appearance, is more or less incorporated into and becomes part of the body image. Head once stated that the body–schema reaches to the tip of the feather in a woman's hat.

The sequence of events necessary for the ordinary relation between sensory receptions and the mental schema of the human body may be disturbed or interrupted, first, if the body image proper is thrown into disorder, and second, if there is a defect in adequate recording of a bodily alteration or disablement on the body schema. The former may occur in consequence of a correspondingly located lesion in the dominant cerebral hemisphere, involving the chief representation of the body image in the parietal or parieto–occipital region. The latter may be brought about by a correspondingly located lesion in the non–dominant hemisphere blocking or interfering with the correlated commissural and associational formations and thus causing a breach at an integral link in the functional chain of the process of coenaesthesia, or awareness of the somatic self. Either type of lesion will result in changes of the body image with some specific form of loss of recognition and orientation in the body sphere.

Disorders of the body image or body schema are liable to be represented by a variety of psychological alterations and psychopathological phenomena of different complexity and severity which relate to a greater or lesser degree and extent to the patient's corporeal awareness; that is, to his concept of the body as a whole and of its parts and their interrelation. They have been described by original and objective observers in connection with, and have been regarded by them as an expression of disease of the parietal or parieto–occipital lobes, looking upon the latter as the most significant, perhaps integral, patho–physiological origin of the disorders. Evidence has accumulated indicating that disease within the parietal or parieto–occipital area in the dominant cerebral hemisphere is commonly followed by a type of disturbances in body awareness greatly if not essentially different psychologically and phenomenologically from that encountered in connection with disease of the parietal or parieto–occipital region in the non–dominant hemisphere. As will be seen, the body schema is usually affected directly and bilaterally—at the conceptual–symbolic level of function—in the former type; indirectly and unilaterally—at the perceptual–cognitive level of function—in the latter type. Apart from the two particular, and in a sense more basic types, there is a series of other perhaps not basic but nevertheless significant forms of body image disorder of varying psychological and phenomenological character, all of which can be looked upon as consisting in alterations of the body image, at different stages in the hierarchy of body consciousness.

The peculiar modifications of the body image, irrespective of their primary origin from structural, physiological or psychological alterations or a variable combination of all, can be roughly classified into the following types:

1. Disorders of body image in relation to one's own body as well as that of others occurring in causal connection with lower parietal or parieto–occipital lesion in the dominant hemisphere, with a range of phenomena such as: a. dis– or inability of recognition and orientation in the sphere of the body and in the interrelation of its various parts (autotopagnosia), b. dis– or inability of recognition and orientation in the sphere of the fingers of both hands and their spatial relationship (fingeragnosia), accompanied by other characteristic phenomena to be pointed out later, c. dis– or inability of recognition and orientation as to right and left side of the body (somato–directional agnosia), commonly associated with either of the two conditions just mentioned.

2. Disorders of body image in relation to one's body–half only (usually the subordin-

ate) occurring in causal connection with parietal or parieto–occipital lesion in the non–dominant hemisphere, with a range of phenomena such as: a. imperception or lack of recognition of left hemiplegia, and unawareness of disease (anosognosia), complete or incomplete, b. imperception of or amnesia for left limbs or body–side, which may or may not be grossly affected, varying in degree from nonrecognition or forgetting to the denial of their presence (autosomatognosia or autosomatamnesia), c. formation of illusions or distortions concerning the perception of and confabulations or delusions referring to the left limbs or body–side, believed or experienced as absent, which may or may not be grossly disabled (somatoparaphrenia). Disorientation for laterality, if present, is related to the diseased or non–appreciated or psychotically elaborated side only.

3. Disorders of the body image: a. in association with sudden loss of a limb or other part of the body and consisting in nonrealization of actual absence or in experience of possession of the lost member of the body (phantom limb), b. in connection with organic paralysis and appearing in form of reduplication of a disabled limb (supernumerary phantom).

4. Disorders of the body image occurring in connection with neuro–psychopathological mechanisms of controversial nature,[2] with a range of phenomena such as: Reduplication of parts of the body or of the body itself in autoscopy, illusions of the double, illusions of bipartition of the body, of exchange of bodies, of corporeal transformation, displacement, separation, etc.

5. Alterations of the body image manifested in abnormal somatic sensations and perceptions, described by many psychoneurotic patients in various parts of the body or in the entire body, without any recognizable physiogenic background and thus termed merely psychogenic.

6. Disorders of the body image experienced in hypnagogic states, in dreams, in the hallucinatory–delusional behavior induced by certain drugs such as mescalin or lysergic acid, and, last but not least, in the peculiar corporeal hallucinations and delusions characteristic of schizophrenic and certain other psychotic conditions.

From the types of disorders of the body image enumerated above, I shall discuss here in more detail only what may be termed the basic disorders. The other types of body image involvement will be reflected upon insofar as it appears feasible in one communication.

In cases of the direct type of disorders of the body image, one deals with an organically induced neuropsychological condition which consists in a state of agnosia within the realm of the somatic self and its constituents, bilaterally, a somato–topagnosia, as it were, due to parietal or parieto–occipital disease in the dominant cerebral hemisphere. In this type there is a primary general disturbance or loss of ability for recognition of and orientation in the sphere of the body as a whole and in the spatial interrelation of its individual parts, without the patient's becoming aware of the disorder spontaneously. Arnold Pick first studied this condition nearly fifty years ago and called it autotopagnosia.[3] A patient suffering from a disorder of this type cannot recognize, differentiate, indicate or orient as to the various parts of the body on command. Such a patient is helpless when asked to point specifically to the chin, mouth, eyes, ears, shoulders etc., within the range of his own body and that of other people, and commits striking errors in appropriate tests.

[2] These types of disorders may be defined as the product of an organically induced projection into outer space, or objectivation, of the body image. It will not be elaborated in this article, but will be the subject of a broader discussion in another communication.

[3] I believe that somatotopagnosia might be a more appropriate term, since in cases of this type the disorientation and loss of recognition concern not only the patient's own body but usually that of other persons as well.

Furthermore the patient may show a disturbance or loss of ability for recognition and orientation as to right and left and sometimes other directions in his own body, and also in that of others. However, the capacity for recognition and orientation in external space and with respect to objects outside the body, the so–called allognosis or object gnosis, seems, in my experience, to be practically unimpaired in typical cases. Unfortunately, in most cases of the disorder the local lesion is accompanied by a more or less diffuse cerebral process. This is why clear cut instances of so–called autotopagnosia are rarely if ever encountered, even if one searches a long time for them, as I did for many years. The coincidence, in cases of autotopagnosia, of parietal or parieto–occipital disease with more expansive and particularly more diffuse, cerebral lesions usually results in psychic disturbances; in aphasic, apractic and other agnostic manifestations, behind which disturbances of recognition and orientation in the body sphere for the most part are barely discernible. This accounts for the great scarcity of characteristic cases.

The only clear cut instance of the direct type of neuropsychological disorder of the body image frequently observable in cases of parietal or parieto–occipital disease in the dominant hemisphere is the phenomenon of finger agnosia, which I first described and designated in 1924 and further elaborated in subsequent years. As has generally been confirmed, this condition consists in a *primary* specific disorder or loss of ability to recognize, identify, differentiate, name, select, indicate and orient as to the individual fingers of either hand; the patient's own as well as those of other persons.

It is characteristically associated with lack of recognition and orientation for corporeal right and left, with special reference to the hands and fingers. Subsequent to this gnostic disorientation with respect to the fingers and their right–left laterality, restriction in their separate kinetic realization not infrequently occurs. These disorders are commonly combined with an isolated disability for writing, dys– or agraphia, and an isolated disability for calculation, dys– or acalculia, of differing severity and definite character. Both types of disorder vary in significant respects from the aphasic, apraxic and visual– or spatial–agnostic types. The disturbances tend to appear in varying degrees of development. All these symptoms group themselves psychologically and phenomenologically as well as pathologically into a well circumscribed syndrome. Investigations in a large number of cases of this type have so far failed to reveal any evidence of general psychic, particularly of intellectual disorder, of aphasia, apraxia and visuo–spatial or other manifestations of agnosia (especially with regard to outer space and the relationship of objects therein) or of motor or sensory changes to which the symptom–complex of finger agnosia and its accompanying individual features could be related. The syndrome has, therefore, been considered primary. There is extensive evidence (in accordance with my original assumption) that the syndrome of finger agnosia with disorientation for corporeal right and left, agraphia and acalculia, is usually caused by a pathologic process affecting the lower part of the dominant parietal or parieto–occipital region of the brain; in that nodal area which corresponds to the angular gyrus in its transition to the second occipital convolution. Finger agnosia seems to be the only complex, though isolated, involvement of the body image proper which can be found as a result of, or development from, a focal cerebral lesion.[4]

[4] There are some clinical variants from the typical condition of finger agnosia, probably dependent upon a more anterior or more posterior extent of the lesion; variants which have given occasion to a differentiation of subtypes of the phenomenon. Thus Schilder undertook a subdivision of finger agnosia into the following types: finger agnosia (in the narrower sense), optic finger agnosia, constructive finger–apraxia, apractic disturbance of finger selection, and finger aphasia. J. Lange suggested a subdivision of finger agnosia

Many autoptic and bioptic findings, both from personal experience and from the extensive literature on the subject, have established and corroborated this localization of the lesion. Of particular interest is a case reported by Delay of a 42 year old woman who suffered from epileptic crises following electroshock therapy. The epileptic attacks were first attributed to the treatment, but later investigations showed that the seizures as well as the mental condition, namely the depressive state for which she received shock treatment, were actually caused by a cerebral tumor. A careful neurological examination, apart from "very active tendon reflexes and an irregular Babinski on the right side," showed the existence of the syndrome of finger agnosia, right–left disorientation, agraphia (not accompanied by disturbance in spoken and internal language), and acalculia. In conformity with previous findings, this characteristic complex of symtoms suggested to Delay a lesion of the transitional region between the lower–parietal and the middle occipital convolution on the left side. A ventriculogram showed moderate dilation of the right ventricle with reduction of the left occipital horn and massive compression of the ventricular system on the left, all indicating the diagnosis of a left parieto–occipital tumor. Operation was performed and the tumor (a schwannoma) removed, whereupon the patient recovered completely.

The phenomenon of finger agnosia is quite characteristic in genuine cases. A patient with this disorder cannot orient himself with regard to the individual fingers of either hand (his own, as well as those held out by the examiner). He cannot recognize them in any way corresponding to the normal; he cannot differentiate his fingers at all, or not fully. He cannot name them correctly, cannot indicate specific fingers on command, nor imitate given finger postures of the examiner. He commits striking errors in appropriate tests. This occurs, it should be noted, in spite of the patient's often remarkably good general mental condition, in spite of his adequate theoretic knowledge of the hands and fingers, in spite of preserved, or at least sufficient, verbal comprehension and expression, in spite of sufficient vision to guide him, in spite of appropriate recognition of objects and their spatial relations outside the body and proper orientation in external space, and in spite of the absence of any interfering sensory or motor disorders. The same is true of the accompanying disorientation for right–left in the sphere of the body (somato–lateral agnosia). The latter likewise occurs in spite of the patient's familiarity with the connotation of the terms "left" and "right", and in spite of his ability, in typical cases, to distinguish sidedness in outer space and in respect to inanimate objects outside the body. As a rule, the patient does not become aware of his errors spontaneously and is quite helpless in controlling them.

Finger agnosia may thus be defined as a *primary* conceptual–symbolic disturbance or loss of capacity for recognition and orientation in one area of the body. As far as all the other parts of the body (including the feet and the toes) are concerned, ability to recognize them and to orient with reference to them remain essentially unaltered. It is as though, in finger agnosia, the body image or body schema were affected in one sphere only, and indeed functionally in the most significant, differentiated, and vulnerable one; the sphere concerned with the individual fingers. It is as though the optic–tactile–kinesthetic image pertaining to the fingers were split off from the total body

into the following varieties: an optic agnostic, a speech–amnestic, a constructive apractic, and a pure apractic form. Although this clinical differentiation may serve to illustrate the complexity of the phenomenon, it is questionable whether it adds to our understanding of the fundamental nature of the problem. Lange tried to base the syndrome of finger agnosia on a general impairment of perceiving direction. But such a general spatial disorder cannot be observed in subjects showing this syndrome.

image, the finger schema from the total body schema.

The phenomenologic association of finger agnosia and disorientation for right and left on both hands, with a disturbance or loss of ability to write and to perform calculations, into a well-defined syndrome is quite significant. This combination is fairly understandable if one remembers how important the individual fingers and their right-left laterality are in acquisition of the functions of writing and calculating.

The function of writing is inconceivable without the highly integrated level of morphologic and physiologic differentiation of fingers and their conceptual representation that has developed in man and continuation of intact ability to write is incompatible with disintegration of this development. The association of finger agnosia with disorders of writing could be interpreted also as due to the necessity of awareness of one's fingers while writing. One could assume that correct writing depends on the integrity of the body image and, in particular, of the part of it corresponding to the fingers.

The association of disorders of calculation with finger agnosia raises a problem of great interest from an anthropological rather than psychological standpoint. Fingers and hands seem to play an essential role in the evolution of the whole system of numeration.[5] It is commonly observed that fingers supply the first aid in learning to calculate. The first arithmetical operations of children are performed on the fingers of each hand. In the counting of primitive peoples, both in remote times and even today, fingers and hands play an important if not integral role. Counting upon fingers was in ancient times probably a universal practice; it is significantly reflected in the Latin word "digitum" to represent both "finger" and "number" among the Romans. It still stands for both in the English word "digit". Schilder and particularly Critchley gave numerous illustrative and relevant examples properly bearing upon the matter in question. It appears legitimate to say that between consciousness of fingers or fingergnosis and calculation there has existed an intimate functional interdependence and interaction from the earliest period in man's development.

[5] Fingers are doubtless the earliest visible signs used to express a number.

The natural question which now arises, after discussion of the relationship between the various features of the syndrome, is whether any common principle underlies its four cardinal manifestations: finger agnosia, right-left disorientation, agraphia, and acalculia. Economy of space will not permit an appropriate elaboration of this question. Various investigations seem to indicate that it is justified to look upon the impairment of the functions involved in the four characteristic phenomena of the syndrome as an expression of a fundamental disorder of a genetically, structurally, physiologically and psychologically integrated entity—the body image.

In cases of the indirect type of disorders of the body image, to which I now turn, one deals with a neuropsychological condition which consists in imperception or unawareness of illness. This is frequently associated with denial of and psychotic productions related to existent, though disabled, body territories, unilaterally and with predilective involvement of the left corporeal side—organically induced due to parietal or parieto-occipital disease of the non-dominant hemisphere.

The most common occurrence of this type is represented by patients affected with cerebral hemiplegia, usually of the left side, who show the strange feature of lack of knowledge or awareness of their own defect. Not only do such patients tend to behave as though they could move their disabled limbs perfectly, but they deny their paralysis altogether. Babinski described the phenomenon in 1914 and called it anosognosia. The phenomenon is observed frequently enough if searched for. Its appear-

ance seems to depend on the mode and rapidity of onset of the illness rather than on its extent and severity. The more sudden the onset, the more the phenomenon of unawareness of disease is likely to occur. The condition is usually transient, but may persist for a longer period, sometimes until death. The phenomenon of nonperception of disease has also been observed, though less commonly, in patients with cortical blindness from bilateral lesion of the occipital lobe (Anton, 1898). It sometimes has been noted in persons with visual field defects from tumors in the sellar region, but more frequently in patients with left–sided cerebral hemianopia. Occasionally it has been seen in cases of peripheral blindness following primary optic nerve atrophy. The phenomenon has also been noticed in certain cases of cortical deafness resulting from bilateral lesion of the temporal lobe. Another instance of unawareness of one's own defect, rather common but not generally appreciated, is demonstrated by a specific group of aphasic disorders, especially of the apperceptive, paraphasic and syntactic types. The best known example, however, of non–realization of one's own defect is represented by the so–called phantom limb, consisting in the experience of possession of a lost member of the body.

Let us review briefly the phenomenology involved in the patient's unawareness of his hemiplegia, usually on the minor side. He behaves as though he knew nothing about it, as though it had not existed, as though his paralyzed limbs were normal; and he insists that he can move them and can walk as well as he did before. Asked to lift up both arms or both legs, he naturally moves the healthy one only, but maintains that he has raised the disabled one as well. The patient may pay no attention to the paralyzed side, as though he had forgotten it; some not only neglect the defective side, but even refuse to look at it or turn away to the healthy side. If such a patient is shown the affected arm or leg as being attached to his body, he will often remain indifferent, or will declare that it is not his or that some one else's is in his bed, and the like. It is as though the patient experienced the paralyzed limbs as absent, as though they had disappeared out of his awareness. Various illusions, distortions, confabulations, hallucinatory or delusional ideas may be produced in this connection.

A few examples may not be out of place: A hemiplegic patient of Zingerle's had peculiar erotic experiences through contact with the so–called "absent" left limbs, which he believed were those of a woman. A patient of Poetzl's with left hemiplegia said of his paralyzed arm "I don't know where it comes from; it is so long and lifeless and as dead as a snake." He would often complain that a strange person was on his left side in the bed and was trying to push him away. Another hemiplegic patient of Poetzl's felt that his left arm was estranged and separated from his body. A patient of Nielsen's speaking of her left hemiplegic extremities declared, "That's an old man. He stays in bed all the time." On being questioned whether she did not mind, she replied, "Yes, I don't want spirits in bed with me. That's my brother–in–law's hand." Of particular interest is a case of left hemiplegia described by Olsen. His patient denied that the affected limbs were hers and said that "yours" or another's were in bed with her. When they were shown to her as being connected with her own body, she stated "But my eyes and my feelings don't agree, and I must believe my feelings. I know they look like mine, but I can feel they are not, and I can't believe my eyes." I have observed similar cases which I shall not quote here on account of space economy. Observations like the one just cited seem to me significant, especially for their suitability to indicate a certain dissociation by disease of the body schema into its tactile–kinesthetic and its optic constituents, the former apparently being prepotent over the latter; so that in cases of imperception of

one side of the body associated with involvement of the tactile–kinesthetic sphere, the optic function seems insufficient to preserve the unity of the body image. Such experiences should caution against over–evaluation of optic factors in the formation of the body schema.

Three main varieties of the syndrome under discussion can thus be observed. They may be classified as follows, according to their particular features: 1. Anosognosia, or lack of recognition of disease, with neglect of impressions from the paralyzed parts or side of the body and overlooking of hemiplegia. This may be complete, in terms of total unawareness of disease; or incomplete, in terms of indifference to the existence or of ignorance as to the nature of the disease, such as the paralysis and the accompanying sensory impairment, but with vague realization of some sort of disablement. 2. Anosognosia with imperception of or amnesia for the affected limbs or side of the body, in various degrees, from non–recognition or forgetting to obstinate denial of their existence. 3. Anosognosia which, in addition to the experience of absence, is associated with illusions or distortions concerning the perception of and confabulations or delusions referring to the affected limbs or side of the body. Outlining these three varieties must, however, not be taken as meaning that they are sharply demarcated.

It is worth noting that practically all cases of lack of recognition or of unawareness of cerebral hemiplegia as well as of one side of the body so far reported have been those with involvement of the left side in right–handed persons. This is in accordance with my own experience. The same is true of cases in which not so much the defect as the defective parts or the entire subordinate side of the body failed to be recognized or was forgotten as the patient's own; to the extent of being experienced as absent, sometimes even without the presence of pronounced hemiplegia or hemiparesis. It is also true of the cases in which illusions, confabulations, hallucinations or delusions relative to the disabled parts or side of the body were produced.

There are four factors which deserve notice in the condition under consideration: first, the site and mode of onset of the structural lesion; second, the particular physiological disturbance it evokes; third, the nature of the psychological manifestations of the disorder; and last, the patient's pre–morbid personality, his emotional attitudes and past experiences. The phenomenology of impaired coenaesthesia, or corporeal awareness, will be found to vary considerably from one patient to another, largely depending upon these factors.

I believe there can be no doubt that the specific form of psychic disorder presented by the cases in question is induced by a focal lesion in the brain. The site of the lesion can already be indicated with a reasonable degree of probability, though its exact topographic relation has not yet been definitely established. It seems, however, that the condition is most likely to result from lesions affecting the parietal or parieto-occipital region, especially the cortex about or below the interparietal sulcus, in the non–dominant hemisphere, which area apparently represents the main junction in the functional chain of the process. The specific physiologic involvement, secondary to the lesion, evidently takes place on a higher level of neural integration, one concerned in the mechanism of body awareness and orientation. The physiologic disturbance of that mechanism, reflecting into the psychic sphere in a particular manner, in turn evokes an equivalent disturbance in a specific psychic activity. Yet it does not necessarily entail lowering or impairment of general cortical or mental function. Indeed, the patients are not as a rule demented; their sensorium, orientation, memory, attention and judgement are usually good except for the agnostic–amnestic disturbance in the sphere of body awareness and recognition;

in other words, the activity of the mind as a whole is uninterrupted.

Thus the local cerebral lesion involving a specific physiologic mechanism causes a certain group of experiences in the field of body consciousness, or some corresponding specific form of psychic activity, to be blocked off from general consciousness. The specific psychic disturbance can fairly be defined as a dissociation from interest, attention, cognitive appreciation and memory of a certain defect in somatic function or of a defective section in the somatic sphere. It connotes perhaps the operation of an organic repression. It manifests itself in the patient's consciousness as an isolated negative state, that is, as absence of disease or of the disabled parts or side of the body. To the patient the affected limbs as well as side either do not seem to be paralyzed or impaired in sensation or changed at all, or simply cease to exist. He also may deny the existence of the left limbs or side of the body, even without a paralysis or other disablement being present. This negative state in the patient's conscious experience gives rise to the appearance of positive psychopathologic features, such as confabulations, illusions and delusions, related to parts or side of the body split off from awareness at the time. The condition may be of temporary or lasting nature, probably dependent not merely on the site and the extent of the lesion and related factors, but also on the psychological attitude of the patient toward his illness, his emotional background and perceptual structure. With recovery from the condition, the presence of disease or of the non-recognized side of the body returns to consciousness, and the patient then realizes the abnormal situation and behaves accordingly.

In the type of neuropsychological disorders discussed above, it is the bilateral cerebral representation of the body schema at the level of conceptual-symbolic functions, commonly related to the dominant hemisphere, that is affected by a parietal or parieto-occipital lesion of corresponding location. In the type of neuropsychological disorders now under discussion, it is the unilateral cerebral representation of the body schema, at the level of perceptual-cognitive functions, evidently related to the non-dominant hemisphere, that is involved by a corresponding lesion (of unspecified site) in the parietal or parieto-occipital area.[6] The lesion separates, in a pathophysiological sense, the major or higher-level representation of the body image in the dominant hemisphere or its parietal apparatus from, and thus disrupts its controlling influence on the minor or lower-level representation in the subordinate hemisphere or its parietal mechanism. The disturbance in the physiological correlation of the two hemispheres or their parietal areas is the intermediary agent between the structural changes and the clinical-psychological manifestations. Sooner or later a physiological and, subsequently, a psychological adjustment may take place, and the disorders in question are then abolished. This has been the outcome in a large majority of instances. If, however, the interrupting effect of the lesion on the specific physiological correlation between the subordinate and the dominant parietal mechanism does not reverse, the disorders may persist.

The lack of recognition of left hemiplegia has been termed anosognosia by Babinski. This term, though established in the literature for imperception of hemiplegia, is likewise applicable to unawareness of other defects, such as cortical blindness. The syndrome of imperception of or amnesia for, as well as the syndrome of psychotic elaboration with respect to, the subordinate limbs or side of the body (sometimes experienced as absent without presence of disablement) for which the same term has been in use, needs a more accurate designation. The con-

[6] Some observers believe that a lesion of the right thalamo-parietal connections or the thalamus or some combination of them also be implicated in this group, but others have failed to find any such involvement.

dition featuring the cases of the second group I have proposed to call unilateral autosomatognosia and autosomatamnesia respectively, the former connoting dissociation from conscious recognition and the latter dissociation from memory of individual defective areas or the entire side of the body. For the condition predominating in cases of the third group, I have applied the term somatoparaphrenia and believe it to be suitable, since it takes account of the fact that in the negative state of experience of absence of certain parts or areas of the body, induced by disease, positive psychopathological phenomena (of illusional, confabulatory or delusional nature) in the sphere of the body image are apt to occur. These terms seem to me to be more appropriate in describing the conditions concerned as they actually present themselves and in properly separating them from the mere condition of anosognosia, or lack of knowledge of disease.

This group of disorders arising from indirect pathophysiological disturbances of the body image differs psychologically and phenomenologically in significat respects from the group of disorders in body orientation resulting from direct involvement of the body schema. The disorders here are characterized, first, by their association with a somatic defect of function, affecting the subordinate extremities or side of the body; second, by the limitation of the phenomena referable to the body schema, to the diseased sections or side of the body in the majority, if not in all, of these cases; third, by the retained orientation with regard to the body of other persons, as well as to the rest of the patient's own body; fourth, by the frequent lack or by difference in type of disorientation as to right–left laterality; and finally, by a peculiar form of psychopathological behavior.

Attempts have been made, originally by Schilder, to explain the condition of imperception or unawareness of disease (in particular of left hemiplegia in right–handed persons and of the affected subordinate side of the body) on the basis of the assumption of a primary instinctive urge or an inherent (unconscious) determining tendency toward maintainance of the integrity of the body, which governs the patient's behavior. According to this theory there obtains here a certain type of repression, in many respects similar to psychological repression, but based on an organic mechanism. Schilder spoke of an organic repression, meaning that neither conscious nor unconscious psychic processes are connected with it; although the patient behaves as if he wished to neglect, to ignore, to be unaware, to turn away from, and to forget the diseased body–half. The organic repressive mechanism may be activated by a general as well as by a focal cerebral lesion. Psychological motives are not discernible. Yet it carries with it attitudes akin to, but deeper rooted than, unconscious psychic attitudes. I believe with Schilder that there is fundamentally a deep community between organic function and psychic life. In the majority of cases the psychic–like structures associated with the organic (unconscious) repression will be of the type of a rather blind instinctive urge which should be regarded as being still more primitive than the psychological unconscious. Schilder thought that organic urge and organic repression are probably also built up on manifold levels, and that even the focal organic urge and repression are not the lowest levels of psychic or, as one might say, of psychic–like function connected with organic life.

This ingenious theory of Schilder (sometimes misrepresented by writers on the subject) merits special consideration. One could assume, I believe, that parietal disease in the non–dominant hemisphere is apt to release from cortical control or inhibition an inherent instinctive urge or primitive (unconscious) tendency toward maintaining the integrity of the body or the image of it. This sets free, for a shorter or longer time, an organic repression leading (through mechanisms basically similar to those of the

so-called psychological repression) to unawareness and denial of illness or of disabled body territories and induces related agnostic and/or amnestic phenomena. In the face of the significant fact, however, that it is mainly in cases of left hemiplegia in right-handed individuals that the syndrome of anosognosia and associated features usually occurs; the question appears justified: Why should the primary instinctive urge or inherent unconscious tendency toward maintaining body-integrity (or the image of it) and the subsequent organic repression, operate in cases of hemiplegia of the subordinate and not in those of the dominant side? Could that not be because of the much wider evolutional range of representation in the cortex of the dominant hemisphere, of the higher discriminative functions and their complement, the higher inhibitory functions? These might exercise a stronger and more effective control on the primitive, deeply rooted mechanisms of organic urge and organic repression. Further elaboration of this point does not seem feasible in the present context.

The assumption of a primitive instinctive urge or inherent unconscious drive toward maintainance of body-integrity (or the image of it) is perhaps best objectivated in the well known phenomenon of spectral or phantom limb. This phenomenon occupies a special position among the psychological and phenomenological aspects of disorders illustrating the concept of the body image and its existence, as well as its relation to body configuration. As has commonly been recognized, this phenomenon may develop in persons who have suffered a sudden loss of an arm or leg or parts of a limb through trauma, amputation and the like. The sudden onset of the disability is common to both, cases with the peripheral and the cerebral type of imperception. The phantom may persist in a variable degree for periods of varying length, with particular vividness immediately after the loss. The patient may be possessed by the phantom to such an extent as to forget the disablement entirely, as well as the fact of amputation. Not infrequently the position in which the patient lost his extremity is preserved in the phantom. It is as though the last posture of the limb was recorded on the body image.

The experience of further existence of the lost limb undergoes changes in the course of time. The phantom limb, which first corresponds in shape and size to the amputated extremity, gradually changes and becomes shorter. If the arm was involved, it is reduced little by little in the phantom; the hand approaches the stump or remains in the previous position, the intermediate parts disappearing; it may also become smaller, like that of a child. This is, in the main, also true of the leg. The longer persistence of the hand and foot in the phantom gives evidence that the representation of these parts of the limb in the body schema differs in stability from that of other sections; this is not surprising in view of the difference in the physiological importance and differentiation.

In some patients the phantom limb is motionless; in others, however, it is believed to move spontaneously or to be movable at will. Movements of the healthy limb or parts of it are apt to produce the experience of similar or identical movements in corresponding parts of the phantom limb.

Observations have been made indicating that a phantom may also occur when the limb is not lost but is severely affected in function, that is, after traumatic laceration of peripheral nerves, such as the brachial plexus, or after a severe lesion of the spinal cord. However, the phantom of a disabled but existent part of the body differs from that substituting for an absent one. It then belongs to the category of reduplication of an affected, yet physically present, bodily area (supernumerary phantom limb).

In persons who have had amputation of a limb in early childhood or whose loss has been congenital, phantom phenomena are lacking, according to A. Pick. This is not surprising, because in such persons the body

schema has been built up to the exclusion of the originally missing part; in other words, the amputated part has never come to be represented in the body image.

The phantom limb constitutes, in some way, a phenomenon by itself among the various manifestations of body disorientation. It deviates from the cerebro– or neuro–pathological types of imperception of somatic disablement so far as with the phantom limb one is dealing with non–realization of the actual absence of a certain section of the body; while in the other types of imperception the condition of unawareness concerns existent though functionally defective body territories. Nevertheless, the complex central mechanism engaged in the process is essentially the same in both the phantom phenomenon and the neuro– or cerebropathological types of imperception. In the explanation of either, the main emphasis must be placed on the body image. One might conjecture that an experience of acute loss of an important part or member of the body would seem capable of breaking through the barrier of discriminative (cortical) control or inhibition and mobilizing the deeply rooted primitive unconscious repressive urge or tendency that gives rise to phantom and kindred phenomena.

To this point I have been dealing here more specifically with the psychological and phenomenological aspects of disorders of the body image attendant upon neuro– or cerebropathological conditions and peripheral bodily loss. This is one essential side of the complex subject. I wish it had been possible to deal in one communication as specifically with the other essential side of the subject; namely, the psychological and phenomenological aspects of disorders of the body image attendant upon psychoneurotic and psychopathological conditions *per se*. The vast scope of the subject does not permit doing so. Let me, however, make the following general concluding remarks:

There is a large group of subjective abnormal corporeal sensations which manifest themselves in a great variety of peculiar feelings experienced in a part of the body, or in various bodily areas in relation to one another, or in the entire body, especially in its spatial relationship to the outer world. These feelings evidently originate elsewhere than in the afferent impressions normally leading to the awareness of our bodies and which lack all those sensory attributes normally composing our body image. They differ in phenomenology and complexity, and result in variable alterations and disorders concerning the consciousness of the somatic self or its territories. These peculiar feelings and experiences are too familiar as to require particular enumeration. They may occur transitorily in healthy people, at time of falling asleep or during sleep or in dreams. They commonly occur as more or less persistent and distressing features in patients with minor or major mental disorders, that is, in various more or less severe psychoneurotic and psychotic conditions respectively. In psychoneurotics, the localized or generalized corporeal sensations manifest themselves in various feelings of pain of a subjective character, mostly in the head (categorically different from the familiar organically induced pain), in strange par– and dysaesthesias, in feelings of heaviness or lifelessness, in alternating experiences of shrinking or enlarging to different proportions, and in other sensory distortions in the sphere of the body or its various parts. In psychotics, especially in schizophrenics, all kinds of bizarre somatopsychic phenomena occur; consisting in experiences of corporeal transformation, elongation or diminution, displacement, projection, separation, deadness, depersonalisation, reduplication in autoscopy, and other bodily changes of an illusory, hallucinatory or delusional nature. The phenomena may originate in the area of perception, in that of imagination, and in the realm of thought processes. They tend to demonstrate how readily the immediate sensory experiences

in the sphere of the body can be distorted and changed under psychic influences and to indicate how vulnerable and modifiable the body image apparently is. All these manifestations can be understood not merely in the light of their psychological interpretation. They may, perhaps, be more fully comprehensible if we consider them in terms of alteration, at different functional levels, of the body image by intrusion into it of these abnormal corporeal sensations and somatopsychic experiences, respectively; or if we regard them as a result of some kind of psychogenetic regression or other functional disorders of the organization or mental representation of the body image.

As so often in cerebral physiopathology and psychopathology, we again come here across the mind–brain relationship which always seems to confront us when dealing with a subject involving higher functional mechanisms of neurophysiological and neuropsychological integration.

Finally I should like to make this statement. It is my belief that the study of the body image and its disorders possesses a basic significance from a neuropathological and psychopathological as well as from a general and special psychological standpoint, and that, therefore, it should be given more extensive attention than has hitherto been accorded it. The body image and its disorders represent an area of research lying at the crossroads between neurology, psychiatry, psychology, psychoanalysis and, last but not least, sociology. The fundamental importance of the facts emerging from their study for an understanding of many obscure phenomena in these diverse fields ought to be emphasized.

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(A comprehensive bibliography up to 1953, on the subject of the Gerstmann Syndrome and various other disorders of the body image, is contained in Critchley's monograph on Parietal Lobes. For this reason, as well as economy of space, references prior to 1953 are omitted here.)

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ON THE NATURE OF UNCIVILIZED AND CIVILIZED PEOPLE

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The study of so-called primitive, uncivilized, preliterate, or nonliterate people who once existed or who now persist anywhere on earth requires no justification because, like any scholarly pursuit, it adds to human knowledge. Psychiatrists and psychologists who do not belong to the anthropological guild, however, very legitimately can ask whether the knowledge thus gained is useful to them in a theoretical or practical sense. The principal contribution to date has been the cross-cultural testing of hypotheses derived from patients and subjects in western society. Various psychoanalytic theories, for example, must be modified if they would take into account facts from a single society (*e.g.*, 24) or from numerous societies (*e.g.*, 39, 42). Or an organic approach to the psychoses is said to secure support from the apparent fact that these disorders appear similar in diverse cultures (5, 21). Such notable advances have in fact vindicated the view expressed so movingly by Sapir (33) a quarter of a century ago when he invited psychiatrists to toil in the vineyard of primitive societies if they would secure profounder understanding of their own discipline.

This article follows the same tradition but invades a slightly different area. To comprehend modern men, the argument runs, it is or should be possible and fruitful to discover not one but three sets of generalizations which are related to one another and interact: those concerning the nature of nonliterate peoples, concerning the nature of nonliterate peoples who at the moment are being civilized, and concerning the nature of civilized peoples themselves. The mere description of the generalizations makes them sound too cosmic in scope; but the illustrative analysis, it is hoped, will render them quite mundane.

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DIVERSITY AND UNIFORMITY

During the last three or four decades many anthropologists have frowned upon the effort to determine the characteristics of "the mind of primitive man." The very expression "primitive man" has carried biological overtones: the implicit or explicit assumption is that he is primitive because he has a primitive mind, and he has a primitive mind for genetic or innate reasons. More importantly, it has been shown that scholarly generalizations have usually been premature and hence misleading or false. As a result of the data collected by an increasing number of trained field workers, the exception to a principle has been relatively easy to discover: some tribe obviously does not do what the principle being assayed says it must do. Nonscholarly references by Euorpean settlers in colonial areas to what "the native" now and forever after can or can not do have not added luster to the line of inquiry. Diversity, in brief, must reign: the minds of primitive tribesmen differ from one another as markedly as those of Australian bushmen and New Yorkers.

No ethnologist, however, rests content on the level of pure diversity. When he reports that fish caught in a particular way constitute the chief food in a patriarchal society which lives on an island in the Pacific and that American naval personnel stationed there are liked or disliked, he is referring in effect to modal tendencies from which there is virtually no deviation (eating fish, reckoning descent), a small amount (the fishing technique), or a relatively large amount (attitude toward Americans). He is finding uni-

formity amid the diversity by abstracting central tendencies.

One modal tendency within a society has been avoided until recently by most anthropologists: the personality traits frequently characterizing a given society or the type of personality modally occurring therein. This area of research has been made disreputable, once again, by facile generalizations concerning national character (*e.g.*, 16) or by unproven assertions that a person is "typically" French or Burmese. In addition, valid, reliable and convenient measuring instruments have been lacking. The investigator can fairly quickly note whether people on the Pacific island catch fish; but how long will it take him to discover whether they have a paranoid streak and how does one detect such a streak in a primitive group? During and especially since World War II, nevertheless, stimulating research into the modal or basic personality of various societies has been proceeding (19). So far field workers have tended to rely heavily or even exclusively upon Rorschach data obtained from a relatively small group of informants. The test is popular because it can be mastered relatively easily before departing for the field; it can be administered so quickly that it scarcely interferes with more conventional ethnographic responsibilities; it appears to be as "culture–free" as any instrument in existence; and it can be scored and interpreted after returning home, often by someone else (17).

Even while decrying abstract generalizations about "primitive man," some anthropologists have been seeking out still more abstract generalizations applicable not only to nonliterate peoples but also to all mankind. Years ago a "universal culture pattern" was noted (44): every society has institutions or provides for human activities which can be subsumed under the same headings. Certain "constants" of human nature must account for these similarities. The constants have been specified by examining a large sample of human societies (*e.g.*, 14); their origin has been ascribed to a common biological inheritance which is then modified culturally (29) or, in part, to the nature of social life (37).

It should be evident that there is a gap in the formulation of these abstract generalizations. One begins in a sense with the individual informant, but one disregards his uniqueness in order to generalize about him and most of his contemporaries—this is the description of an entire society. Or one disregards the uniqueness of each society with respect, for example, to economic and religious practices, and one states that everywhere there are economic and religious institutions in response to certain universal needs or drives. In–between can be the intermediate stage of discovering generalizations sufficiently abstract to refer to nonliterate people everywhere but not so abstract as to include everyone.

The theoretical and logical defense for investigating such an intermediate stage appears unassailable. Consider, for example, the doctrine of cultural relativity which stresses the uniqueness of each society and hence abhors the search for uniformities among nonliterate peoples. Why is each society unique? It is stated that each society has operated under a pattern of rather unique geographical, economic, and historical circumstances. If a modal personality is discoverable in the society, it too can be traced to the same pattern of conditions. On this level nothing esoteric or controversial is proclaimed: people who live in an environment in which food is scarce must develop talents to cope with the situation; these talents can exercise a determining effect upon a large segment of their behavior; the kind of person which they become in turn affects the way in which they help to socialize their descendants. Precisely the same reasoning can be applied to the nature of nonliterate people: if it can be shown that they live under conditions that differ from those of civilized people, then it must follow that their "minds" or personalities differ too.

This can be done without invoking a biological hypothesis and without referring to stages in an evolutionary process.

Less antagonism is likely to be provoked if the phrase, "the mind of primitive man," is summarily dropped. To avoid a trace of value judgment, "nonliterate" can be substituted for "primitive." To indicate statistical sophistication and hence a continued awareness of the fact of deviation, "man" becomes "people." Finally, the sweet, nineteenth-century flavor of "mind" makes the word tabu today; instead, in the present century "traits" can refer to any aspect of behavior. The "traits of nonliterate people" is the phrase unveiled.

TRAITS OF NONLITERATE PEOPLE

It is more pleasant to justify the quest for discovering the traits of nonliterate people than it is to devise methods to achieve definitive generalizations. Two tasks arise. In the first place it is necessary to isolate the conditions that face nonliterate people and do not face civilized ones. When it is remembered that nonliterate people live (or once lived) in climates as diverse as the arctic and the tropics and with a way of life ranging from nomadism to cultivation, it can be realized that the conditions even in highly abstract form cannot be easily educed.

Were there agreement—as there is not—concerning the distinctive conditions, the second problem, that of indicating the behavioral consequences stemming from the conditions, would remain formidable. Above it was stated that a condition of scarcity affects personality, but the precise nature of that effect certainly cannot be predicted merely from a knowledge of the condition. Or, if consequences are not to be systematically deduced but empirically induced, other Augean stables must be cleaned. Even the most orthodox Rorschach devotee, for example, scarcely maintains that the protocol from ten plates provides immediate or easy insight into a single person. The problem is multiplied many times when the effort is made to abstract central tendencies from a series of protocols obtained in the same society. And the abstraction process becomes truly Herculean when collections of series from many diverse societies are involved. Little wonder, then, that most anthropologists, social scientists, and psychiatrists have leapt over the problem altogether.

Most have leapt, but not all. First, there are those who have sought to establish differences between one nonliterate group and local Europeans, mostly with respect to intelligence (*e.g.*, 6). These findings are thus concrete and specific, but unfortunately the studies are too few in number to produce challenging generalizations at the moment.

Then there are those who have sought deliberately to characterize all nonliterate people or at least a fairly large collection of nonliterates like "the folk society" or "the African." Who are these writers? In modern times the list is headed by the French sociologist Lévy-Bruhl (23) whose reference to the "prelogical mentality" of primitive man has been considered so unclear and faulty that a generation of non-French colleagues has sought to avoid similar blunders by neglecting the problem. In this country there has been the respected Boas (7) who, after disposing of a racial explanation, produced generalizations like the following: "the primitive man views every action not only as adapted to its main object, every thought related to its main end, as we should perceive them, but . . . he associates them with other ideas, often of a religious or at least of a symbolic nature." More recently, Americans like Radin (30) have characterized nonliterate peoples in general (*e.g.*, "respect for the individual, irrespective of age or sex"); others like Redfield (31) have pointed to the attributes of "peasant society" (*e.g.*, "a reverent disposition toward habitat and ancestral ways"); and still others like Steward (38) have emitted principles while discussing some other theme (*e.g.*, in the "tribal society," "the common denominator of shared traits is more or less

co-extensive or synonymous with the total culture"). Likewise German scholars have been active: Werner (41) seeks similarities among children, the insane, and primitive peoples (*e.g.*, "the thought of primitive man . . . has a concrete and in consequence syncretic character"); Drobec (13) finds that primitive man attaches significance to particular events (*e.g.*, "Der Naturmensch . . . misst auch seinem Traumleben, das ihm ja als Erlebnis unmittelbare Wirklichkeit ist, grosse Bedeutung bei"). Even a British functionalist like Malinowski (25) is willing to say that in all African Reserves—and he does not specify the tribes—there is "little room for unfulfilled promise and for the shocks of unexpected disproportion between effect and satisfaction." Carothers, a British psychiatrist with years of experience in East Africa (8), has generalized about all Africans (*e.g.*, "a continued tendency to follow routine procedures in an unreasoning fashion"); and, in a not unanticipated manner, he has been taken to task by an American anthropologist (18) for doing so. In brief, as these samples show, there is a literature on the subject, though not an extensive one.

In all this literature, the generalizations are impressionistically rather than systematically derived. In an equally impressionistic manner this writer, nevertheless, would seize upon the writers' impressions, and indicate the kind of generalizations which from one standpoint seem to run through their writings and which from another appear promising and verifiable in the future. For illustrative purposes, two conditions believed to be common to all nonliterate peoples are stated, and each is immediately followed by a proposition asserting the probable consequences of the conditions upon behavior.

Condition: nonliterate people have face–to–face contacts with most of the significant members of their society and with most of the means of production. *Consequence:* nonliterate peoples tend to believe that they comprehend the functioning of their society and of their own role within that framework; vis–à–vis other people, therefore, they feel secure and restricted. The face–to–face contacts result from the relatively small size of nonliterate groups and from the fact that production tends to be directed toward the satisfaction of the immediate needs of the producers themselves. People are acquainted with one another and, although there may be some specialization and some trade with contemporaries at a distance or with neighboring tribes, virtually everyone knows who produce food and clothing and how they are produced. The intimacy resulting from this state of affairs makes social life intelligible: throughout socialization the functioning society can be perceived and apprehended in a traditional manner. The opinion of one's peers is consulted, valued, and generally obeyed. An individual is not likely to be in a state of conflict concerning the role which he must perform in specified situations. "Normal" emergencies—of nature and of war—are provided for.

Condition: nonliterate people lack the empirical, experimental tradition of western science. *Consequence:* nonliterate people tend to sanctify all or virtually all their values and procedures. Obviously in many nonliterate societies empirical, even experimental evidence may be sought and obtained on occasion, but no tradition exists which fosters such an approach either consistently or frequently. Sanctification of values and procedures does not mean that change is impossible; but nonliterate people, although they differ with respect to their receptivity to change (3), on the whole consider the future a replication of the past.

Assume, then, that eventually a longer and a truly valid list of more striking conditions and consequences can be produced. Clearly such knowledge about the noble savage, about nonliterate people could provide insight of direct relevance to men everywhere. Civilized society contains aspects of the uncivilized. Villages in Europe and America offer face–to–face contacts similar to those postulated for nonliterate peoples;

many aspects of the civilized code and credo are not subject to empirical or experimental modification.

TRAITS OF ACCULTURATION

The longer list of conditions and consequences, though definitive, would be antiquated before its completion: today almost no group of people can be called totally nonliterate since the influence of the western world is felt everywhere. The "face–to–face contacts" are likely to change after contact: some tribesmen are induced to raise a cash crop or to dig minerals, as a result of which they and soon many others no longer have direct contact with the means of production and instead exchange the cash or commodities, which they receive from the crop or from mining, for goods and services whose production they may never witness. Or attendance at a formal school, whether conducted by missionaries, colonial educators, or European–trained peers, means contact with the ideas of science, of challenging some beliefs until adequate evidence is presented, etc. Thereafter the graduates are likely to view with a certain amount of doubt the traditional beliefs of their own society and also those of Europeans.

Once again an investigator is faced at the outset with staggering diversity as he seeks to find the common traits possessed by people who are attempting or being forced to become civilized. At a given moment in history, different tribes have acquired the most varied aspects of western culture. Any trait from the outside, whether it be material or non–material, is almost always not added to the existing culture but in some way or other fused with pre–existing modes of living or behaving. Even within a single society deviation is apt to be large. Some people may be cultivating the land in the manner of their ancestors; at the other extreme are practising lawyers who have received degrees from European universities. Among cultivators there may also be differences with respect to the number of implements acquired from the West. For purposes of research, then, each acculturating society must be considered a unique case. By and large anthropologists have been following such a procedure, and so they have been avoiding sweeping generalizations. Typically there has appeared a volume devoted exclusively to "critical abstracts" of studies in North America published prior to 1952 (35); and books concerned with technological changes in "underdeveloped" areas are largely (26) or completely (36) case histories.

When the reports of these changes are read carefully, however, it is usually possible to uncover somewhere in the monograph at least a sentence or two which places the particular material in what the investigator considers to be perspective. Although his research is devoted to two societies in West Africa, a contemporary anthropologist does also mention certain characteristics which apply to a "nombre de sociétés dites 'sous-développées' qui sont actuellement en cours d'équipement et de modernisation": "L'urbanisation, les migrations de travailleurs, l'élargissement des communications et l'accroissement de la mobilité, la réduction des groupements villageois en raison d'une sécurité devenue permanente, etc." (1). Only rarely do investigators deliberately seek to generalize from their experience in a limited region to all acculturating groups, as the Wilsons (43) have so brilliantly done.

The search for general traits raises very tricky methodological problems, it is readily admitted. Without positing a causal sequence, for example, this writer assumes that there is a relation between degree of acculturation and the ability to carry on "abstract" activity *as measured by a western-type of test*. He knows that—doubtless for cultural reasons—samples in any one acculturating society will have a higher mean score on one test than on another (12). In the course of a long interview given to carefully selected samples in three African societies (11) and in Jamaica, B.W.I., three per-

ceptual tests have been administered[2]. If results from only one of the tests are considered, a conclusion of some generality emerges: for three of the societies but not for the fourth, there is a statistically significant tendency for the more acculturated individuals to have higher scores. But when results from the three tests are analyzed simultaneously, there is a still greater tendency for the more acculturated Africans or Jamaicans to have high scores on one or two of the tests but not necessarily on all three. Since the three sets of scores are highly correlated, the conclusion in this instance can be drawn that in all four societies there is a strong tendency for acculturation to be associated with superior performance not on any particular test which an investigator might be tempted or compelled by the exigencies and travail of field work to employ, but with some factor common to all three.

As in the previous section, illustrative generalizations are here hazarded. Consequences in terms of the traits of acculturating people can be specified without reference to conditions which—on a highly abstract level—may be considered identical: there is at least some diffusion from a new or foreign society. One might begin by indicating the broad alternatives of acculturation: *when nonliterate people have contact with the West, the incentive to acquire a western tool or mode of behavior can be to satisfy an existing drive related to that tool or behavior, to become westernized or further westernized by so doing, or to achieve a combination of both goals.* At one end of this continuum of motivation might be the Kikuyu tribe in Kenya (East Africa) who, according to their best known leader (20), seek or should seek to acquire only those European traits which appear useful in retaining the Kikuyu way of life. At the other end are the Manus of the Admiralty Islands (New Guinea) who, according to Mead (27), have been speedily adopting western traits since World War II not to bolster their own culture but to become civilized men. Of course nonliterate people do not deliberately raise the question baldly as to whether they wish a tin roof or a cloth skirt because the articles satisfy old needs more effectively *or* because they symbolize the West, but eventually—if only dimly or unconsciously—each person or his leaders face the issue and reach a decision.

Other generalizations might involve continua whose extremes represent only quantitative differences. For example, *all people in a society which is undergoing change as a result of contact with an outside group are in a state of mild or severe conflict concerning the alternative forms of behavior to be learned.* On the one hand there are pressures to conform to the old ways which may come from older or rural people within the society or from outsiders who would not have "natives" become "civilized." On the other hand, there are progressive compatriots and outside proselyters who favor the new ways. These pressures are internalized and give rise to the conflict whose intensity varies considerably and whose resolution may be easily or never achieved.

Even when the conflict between people within a nonliterate society or that between impulses within an individual is somewhat reduced by learning or adopting the new form of behavior, it appears that *in an acculturating group effects from the old form of behavior persist during and beyond the lifetime of the current generation.* This generalization rephrases a repeated finding of social scientists that "culture" dies very slowly. On the surface the literate man from the nonliterate society appears urbane and civilized, but underneath he may still have traces of the old beliefs in sorcery or witchcraft. The persistence of the old either socially or individually must spring from the fact that for some people the belief or practice continues to perform a psychological function which has not

[2] The field work in Africa was graciously financed by the Carnegie Corporation of New York, that in Jamaica by the National Institute of Mental Health, United States Public Health Service.

been assumed by the alternative from the outside society.

At the risk of creating misunderstanding and on a very, very abstract level a similarity may be noted between these illustrative generalizations and those applicable to the socialization of children in any society. Children learn from adults either because the new form attracts them or because thereby they come closer to adult status. The incentive to become an adult is likely to conflict with the desire to remain a child. Childhood traits often persist in subtle ways during adolescence and adulthood. The pointing out of these similarities does not mean that nonliterate people are children or that they are like children in all respects. That hoary comparison must be false since nonliterate adults are obviously mature in terms of the norms of their own society and since to become civilized they must unlearn old habits as well as learn new ones. The relation between nonliterate and literate people bears a resemblance to that between children and adults only in the sense that nonliterate, acculturating people and children are challenged to learn the more complicated, or in many instances just the different ways of another group (literate people and adults, respectively) which serves as models for them.

Acculturation is not confined to nonliterate peoples (4, 32). Any immigrant group, any person who is mobile in civilized society, or even anyone who joins a new group voluntarily (like a clique or a club) or involuntarily (like the army or a prison) must learn new ways of behaving. For this reason, the generalizations to be derived from observing nonliterate people in the process of being civilized can be employed to comprehend all changing groups and people.

TRAITS OF CIVILIZED PEOPLE

If the tidy, careful mind of the reader or investigator rebels at the thought of generalizations about all nonliterate or all acculturating people, he will really be dismayed by the final height which must now be assaulted: principles about civilization. Or he will say that here is a task for philosophers, fiction writers, and journalists. In truth, the writer freely admits a queasy feeling whenever he permits the words "civilization" or "civilized" to emerge unclothed in quotation marks. Let balm be provided by an anology.

In theory it is possible to investigate differences between piccoloists and non-piccoloists. Besides the one attribute which by definition non-piccoloists have in common—they cannot play the instrument—they may possess other attributes which research could uncover. Similarly, people learning to play the piccolo must have certain attributes in common which spring out of the learning situation and from the nature of their objective. Finally, piccoloists share the skill of being able to play, and perhaps they too have other traits in common. Now the skeptic can say that no two piccoloists are really alike with respect to breath-control, fingering, and all the other specific coordinations demanded by the instrument; that they can variously read and interpret music; and that even piccoloists have differing personalities. Ah yes, but all of them *can* play the piccolo; and correlated with this ability may be additional behavior. Piccoloists are diverse, but they also have one or more traits in common.

In like manner it is self-evident that Swedes differ from Spaniards, as do any two people within the same community of the United States or Wales. Clearly there are many kinds of civilized men, but is it not possible that other traits are associated with their ability to read and write, to use machines, and to live in large communities? Here the writer has the temerity to propose one, and only one generalization about civilized men. It is offered without benefit of italics so that it can be smuggled in less conspicuously: civilized people seek future rather than present goals to a greater degree than nonliterate people. The generalization is not true in any absolute sense. Nonliterate people everywhere orient themselves toward

some goals to be attained in the future. The simplest child in a nonliterate society probably inclines toward one or more objective which he will achieve as an adult. The humblest nonliterate cultivator must wait for the harvest after he has sown his seed, and in the meantime he performs innumerable chores because he knows that eventually the crop itself will bring satisfaction. Conversely there are creatures of impulse in every civilized society.

The generalization, nevertheless, serves to highlight a quantitative difference. In nonliterate society the education of the child occurs in the context of the home and the immediate community; only while learning a particular task or undergoing an initiation ritual is he likely to be removed from this everyday context, and then for a brief period. The aim of such education, moreover, is to help solve problems at hand or those which can be easily anticipated. There is thus a clear-cut connection between what is taught and its utility at the moment or in the near future. Formal education in civilized societies, on the other hand, is relegated to schools which are places deliberately separated from children's home and the rest of society; and the curriculum even at a primary level contains subjects whose connection with real problems is not always apparent either to pupil or teacher. It has been demonstrated (28) in Trinidad, B. W. I., that a sample of East Indian children had a slightly greater tendency to prefer to receive a larger piece of candy a week later instead of a smaller one immediately than did a sample of Negro children; presumably—although the investigator does not say so—the former are more "acculturated" than the latter.

The plans of the nonliterate cultivator may be postponed, but they are generally realized within a few months. In contrast, civilized people must often delay gratification for longer periods of time, for example, when they submit to higher education, when they delay matrimony, or when they save for their children's education or their own old age. The theme of patient reunciation in fact pervades the thinking of western man. Jesus said to his followers, "In your patience possess ye your souls" (St. Luke); and Emile had to learn, according to Rousseau, that "patience is bitter but its fruits are sweet" (Book 3). Freud (*e.g.*, 15) stressed the curbing of basic impulses in childhood so that they later may be released in altered form. Weber (40) singled out Puritanical "asceticism" as part of "the spirit of capitalism" which the Reformation foreshadowed and encourgaged before the advent of industrialization.

Within American society a "deferred gratification pattern" is associated to a greater degree with groups which may be called more highly socialized (and hence, in terms of the majority's or the dominant norms, more "civilized") than it is with those who may be considered less socialized. Children have been observed to prefer immediate rather than future rewards (*e.g.*, 9). Both among Negroes (10) and whites (34) middle-class children adhere more strongly to the pattern of postponement than do these from the lower class. Even on the level of fantasy a group of middle-class children thought in terms of longer time periods than did lower-class subjects (22); a similar result has been obtained when a group of non-delinquent boys was compared with a matched group of delinquents (2). All men, in short, must renounce impulsive urges, but nonliterate and less literate men are more likely to be provided with some form of substitute and immediate gratification.

In conclusion, it is not unfair to ask how indeed other traits which civilized people share might be delineated. Logically some can be immediately derived from the traits of nonliterate people and those of acculturating people, as indicated in the previous sections of this paper. Unlike nonliterate people, most civilized men find it difficult to comprehend their society and their own role therein; they tend to feel insecure in personal relations but relatively free in some respects

from pressure exerted by perceptible peers; and they often question and hence are ready to modify many values and procedures. Somewhat like acculturating people but usually less intensely, most civilized ones must frequently choose between two procedures or cultures; they are thus thrown into conflict; and they are not likely to forget the old even after ostensibly adopting the new. A noncontroversial procedure becomes evident: additional attributes of civilized people, like those of any class or category, can be more easily discovered when there is another class or category which serves as a contrast. One learns about civilization systematically by comparing civilized men with some other group.

What groups are there which can serve this contrasting function? Besides those of nonliterate and acculturating people mentioned here, there are at least four others: animals, children, literate people in an earlier historical period, and abnormal people. Methodologically each of the six groups has its advantages and hence its scientific and scholarly adherents. The writer would state, naively to be sure, that direct observation of Africans and Jamaicans in the throes of acculturation has compelled him at least to fathom some aspects of civilization which he had not previously noticed, but this emotional and intellectual experience has not convinced him that here is the only route to everlasting wisdom. The other four groups must continue to be similarly and *deliberately* utilized as contrasting points of reference if an understanding of civilization is to be appreciably improved.

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A MULTI-GENERATION APPROACH TO TREATMENT OF PSYCHOPATHOLOGY[1]

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INTRODUCTION

In previous papers (2, 3, 7) the writers have described an approach to the understanding and treatment of psychopathology which is based on viewing the patient as acting out conflicts which have concerned his family group over numerous generations. This approach is in the tradition of other investigators who have tried to understand psychopathology in terms of family structure and family interaction. Spiegel (9, 10), Ackerman (1), Henry (4), Sperling (8), Lidz (6), and Johnson (5) may be cited as among those who have most actively advocated such a family orientation. The specific viewpoint of the writers will now be briefly reviewed and then some of its more recent elaborations outlined.

During the course of our early exploratory studies of the relatives of patients who were seen in a private practice setting, we were struck by the similarities existing among members of the same family. Over a period of time we obtained interview material and Rorschach and TAT data from the members of more than 50 families. Included in this series were 17 families in which we had such information for either three or four generations of the patient's kin. In these extended generation families we usually studied the patient, his spouse, his children, his mother and father, and his spouse's mother and father. During the analysis of the total mass of data we found that any given family tends to be characterized by a distinguishing theme or problem area. Each family was marked by its somewhat unique struggle with a difficulty common to its members. Each family member seemed to share with the others in the family an unusual concern with a given conflict. Thus one family might be struggling principally with the problem of guilt and self destructive inclinations; another with the problem of containing exhibitionistic impulses; and another with difficulties centering about wishes for unlimited passivity. The clinical data quite explicitly pointed up the overlapping areas of concern among family members. But such overlapping among them was particularly evident in their projective test responses. Not only could one perceive a basic common theme in the test protocols of the members of a given family; but also, there were often striking similarities in the content and structure of specific responses. For example, a woman might give an unusual response to a Rorschach blot and her grandchild would produce the same unusual response to the same stimulus. There were instances in which all members of a family's three generation sequence would give either the same or a similar unique response to a particular projective test stimulus. To illustrate this specificity, an example may be cited. The following are the various interpretations of Card III of the Rorschach which were given by four members of the same family:

1. "The earth all to pieces."
2. "Roosters that are dead."
3. "A house burned down."
4. "A pirate or a miscarriage."

Each of the family members reacts to Card III as portraying uncommon violence or destruction; and the imagery projected is atypical of that usually elicited by Card III.

The continuity and similarity that we observed in the fantasies and main areas of conflict of members of a given family over numerous generations induced us to take a

[1] Presented at the 1957 Annual Meeting of the American Orthopsychiatric Association.

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special historical perspective toward the problems of the individual patient. We came to see that when a patient applied for treatment because he had developed painful symptoms this was the end result of a long term historical process. The patient was struggling with certain basic issues that had bothered the members of his family over a multi-generation span of time and that were still disturbing to the other members of his immediate family.

It may be parenthetically noted that we are not at all sure how far into the past the conflict themes characteristic of given families would be found to persist if one had the means to trace them back indefinitely. It can, however, be reported that in some normal families that we have recently had the opportunity to study, such conflict themes have been clearly apparent over a five generation span. We have only the haziest of ideas as to how given families came originally to be concerned with one set of problems as compared to another set. One can only speculate that such differences are correlated with variation in the specific life conditions encountered at some very early hypothetical critical period by each family because of its special geographical, economic, and social situation at that time. In any case, the historical perspective provided by our method of study convinced us that it was incorrect to deal with the individual patient apart from his family group. It struck us that the core problems facing the individual patient could not realistically be conceptualized as due simply to his behavior as an individual. In a sense, he was a phase or an event in a very long-term social process and likely to remain more or less embedded in that process during his whole lifetime.

As has been reiterated, the core problem which disturbs a patient to the point that he requires treatment seems to be one that his whole family group has worked to solve for an extended period. We hypothesize that so long as the family as a unit is able to deal with this problem an equilibrium is maintained which permits the individual family members to function adequately. But when an individual family member finally gets so disturbed by the problem that he seeks outside help, this may be interpreted as signaling the failure of his family as a problem solving group. To some degree it seems to us that the individual who comes for treatment is a fortuitous choice of the balance of forces in the group at a given time. He is the representative and symbol of a group that has become too disorganized to settle certain important problems within its own borders.

Having arrived at this position, it seemed most logical to treat the patient in terms of the group context of his difficulties. That is, one should treat not only him but also his family. This approach strikes us as reasonable and economical for several reasons: First of all, if the patient is in trouble and needs help, that indicates his family members are also in trouble and that they too need help. They need treatment as much as he does. Second, we assume that if the family group (and its milieu) has been, and will continue to be, the chief ally of the patient in dealing with the vicissitudes that grow out of his most outstanding problem area, it would appear that his chances for future security are tied to the status of equilibrium in the family group. Unless this group is sufficiently strong to provide a helpful problem solving context for the patient, we consider it doubtful that he will ultimately fare well, even if his own immediate individual therapy seems to proceed smoothly. Third, we have found that if the family group of the patient is not actively and positively brought into the therapeutic process it soon comes to exert a negative influence. The resistances and resentments that develop in the relatives of patients who are in treatment have been so widely observed as to be almost axiomatic. We have data which indicate that this negative reaction is primarily the result of acting as if

only the patient needed help and overlooking the need of his kin for help also. When the therapist focuses his attention almost entirely on the patient, the patient's kin feel that they are being excluded from proceedings in which their interests are inextricably bound. They feel that it is unjust to separate them from the whole process of working through the basic problem which has so long been of great concern to all of them. The more that a therapist separates them from the process the more hostile they become to him and the more likely they are to undertake adjustive measures of their own which will be uncoordinated with his plan of action.

METHODS OF FAMILY THERAPY

How does one go about doing therapy with a family orientation as contrasted to therapy with an individual orientation? What specific therapeutic aims and procedures are linked with the family approach? There follows now a general review of the usual routine that is adhered to on the basis of the family approach when dealing with a patient who comes in for psychiatric help. The patient is first interviewed in sufficient detail so that a preliminary formulation can be made of his principal problem areas and of his degree of ego strength. Special inquiry is directed at finding out who are the important immediate family members in his life and what kinds of relationship he has with them. Furthermore, considerable emphasis is placed upon the fact that the therapeutic plan to be developed will involve not only him but also most of the members of his family in varying degrees. An appointment is made almost immediately for an interview with the patient's spouse in order to obtain further perspective on the conditions current in the family situation. At the same time, a wide circle of the family group is usually mobilized by requesting that not only the patient and his wife take psychological tests; but also that one or more of his children, and even one or more of his parents or his spouse's parents do likewise. Despite misgivings in the early phases of our work about the willingness of most families to commit themselves to such initial strenuous mobilization, we have found that they are almost universally accepting, and even enthusiastic, about the logic of the procedure. Refusals to participate in such a family mobilization program have been rare and where present is informative itself.

The information which is accumulated from the initial interviews and from the various test protocols provide a rich matrix for analysing the difficulties that confront the patient and his family as a group. The data from each individual provide a separate reference point about the whole problem situation; and so a series of reference points rather than one or two is available. It therefore becomes possible to make formulations about the family with an unusually high degree of precision. The formulations must be such as to embrace the full complexity of the material obtained from all of the family members. But further, one finds oneself in a position to evaluate with great specificity the reality of the patient's fantasies about important family members and the whole tradition in which he was raised. Much of the speculative element in initial dynamic formulations is in this fashion eliminated. One of the first most important uses made of the total information which has been gathered is to determine which members of the family are most likely to be able to benefit from psychotherapeutic procedures. That is, the individuals are selected who would seem to represent the best channels for influencing the family group. It is assumed that when any member of a family is taken into therapy that he is in a sense a representative of the group in disequilibrium and that his experiences with the therapist may provide a means for introducing new forces into the family matrix which will restore equilibrium.

We feel that as soon as a therapist begins

to work with a representative of a family he becomes a new powerful informal member of that family. The family members develop all sorts of expectations and fantasies about him which influence their style of behavior. The greater the disequilibrium of a family the greater the number of family members it may be necessary to work with therapeutically in order to bring potent influences to bear on the total family structure. In most families it has been customary to begin by working with the patient and his or her spouse; and to bring in more family members as the situation dictated. The therapy employed has involved both individual and group psychotherapy and at times both combined. In its most inclusive form, family therapy has meant at times the gathering of the entire family group in order to demonstrate to the group certain of its characteristic ways of behaving. It has been rare to work with children when they have been brought in as the apparent patients. In most instances therapy with the mother and father has sufficed to help the disturbed child significantly. There have been many instances in which the adult individual who has presented himself as the patient has not been directly treated; and instead other members of his family have been taken into treatment. This has been done especially in instances where the immediate patient seemed too constricted or disorganized to benefit from psychotherapy in a private practice setting.

The validity of our assumptions about the effects that treatment of a family representative may have upon the total family has been supported by our observations of many families in treatment. Let us cite a detailed example at this point.

A sixteen year old girl was brought in for treatment by her parents because of schizophrenic symptoms. She had become withdrawn; displayed exaggerated religiosity; and adopted unusual postures and mannerisms. It was soon evident that the girl had been reared in an extremely controlling and denying family setting. Her mother especially was a very moralistic person who frowned upon any signs of spontaneity, particularly in the sexual realm. The patient had learned to conduct herself as a "good" girl who worked hard in school and deviated minimally from the "straight and narrow." It was observed that her father was in great conflict with the mother and that he had sought some kind of compensatory intimacy with the patient. She felt guilty about father's closeness and sensed that mother was angry and jealous about it. Interviews with the patient's mother and father indicated that they were both too constricted and rigid to be able to shift their positions sufficiently to offer their daughter the kind of help she needed to solve the difficulties confronting her. Also, it was evident that individual psychotherapy with the patient alone within the context of her immediate family situation would have very limited effectiveness. Consequently, the decision was made to survey other members of her broader family and to find someone with whom she could go to live who would be sufficiently strong and yet flexible to permit her some new approaches to her problems. The results of the survey suggested that the patient's aunt (father's sister) was probably the best candidate for such a role. She appeared to be a stable person who had needs to help others and to carry a heavy burden of responsibility. She was definitely a freer and less inhibited person than the patient's mother. Despite the fact that she had four children of her own, she agreed to take the patient to live with her. The patient's mother put up only token resistance to the idea; and the father too readily accepted the plan.

It should be parenthetically indicated at this point that in the course of evaluating a wide range of the patient's family members it became apparent that the prime "family problem" had to do with the expression of sexual impulses. Interviews and projective tests (Rorschach and TAT) taken from

samples of four different generations of the family presented a picture of extremes in dealing with sexual fantasies. Thus in one branch of the family there was found much behavior marked by disorganized promiscuity, perversion and a minimum of censoring of sexuality. In another offshoot of the family the atmosphere was severely repressive and the slightest manifestation of sexuality was frowned upon. Both of these extremes typified the problem this family group had in establishing a satisfactory equilibrium in the area of sexual behavior.

When the patient went to live with her aunt, she found the attitude toward sexuality considerably more liberal there than it had been in her own home. Indeed, her aunt encouraged her to meet boys and to date. In this atmosphere and with the help of brief reassuring contacts with a therapist she showed rapid improvement and soon she was back to her prepsychotic level. During this time, periodic therapeutic sessions were held with the aunt who was thus enabled to relieve some of her own tensions about the problems raised by her niece living with her. The patient resided with her aunt for about a year and then met a man whom she married after a brief courtship. This man was not informed by his wife of her previous illness. In this new situation she maintained an adequate adjustment until about a year later when a child was born to them. At this time her schizophrenic symptoms returned, with the added feature of a tendency toward sexual exhibitionism (*e.g.*, going out into the street in her nightgown). Once again the decision was made not to focus treatment on her but rather on a significant family figure who could help her. Her husband seemed to be the logical choice. Interviews and projective tests indicated that he had a sound ego structure and that he probably had the resources to derive aid from a therapeutic relationship. It was hoped that he could be helped to channel more support and love in his wife's direction which would make reality more attractive and permit her to give up her symptoms. The husband entered into group therapy and almost immediately the patient began to improve. Within a few months she had lost all of her symptoms. After about six months of therapy her husband decided he had had sufficient help. She has now maintained her recovery for over a year.

Her aunt recently decided that there were certain anxieties she wanted to work through and she entered into group therapy. These anxieties were apparently activated by having to care for her niece. From our point of view, working with the aunt is part of a long term project to restore equilibrium to the patient's total family group. The aunt is one of the strong members of the family and the more that she can be helped the more will it redound to the benefit of the whole family group. It is anticipated that the patient will probably regress from time to time in the future as she encounters difficult problems; but with the aid available from her husband and aunt it is likely that she will be able to overcome such crises.

This case illustrates well the philosophy of family treatment. From the beginning little direct treatment was given to the person designated as the patient. Instead, the strong points in the family group were mobilized and reinforced and used to create a family matrix within which the patient could feel more secure and less in need of protective psychotic symptoms.

The basic question that must be decided when attempting to restore equilibrium to a family group is how many and which members of the group must be treated in order to set in motion the forces for change which have just been enumerated. Sometimes working with one family member will be sufficient to start off such changes, but some other member will react so resistively to the process that he blocks further restoration of equilibrium until he is directly dealt with therapeutically. Sometimes changes cannot be initiated at all via the first member who is treated and it is necessary to try again

with another member. There have been many examples of this phenomenon of failing to get things moving via a first family member and then achieving considerable success through an alternate member. In still other instances, restoration of family equilibrium has required working in turn with three or even four of the family members.

One of the most unique therapeutic effects of the family oriented approach grows out of the manner in which the treatment situation is structured from the very beginning. It is made clear at once to the individual who introduces himself as the patient and to his family that the presenting symptoms and difficulties are not due to the maladjustment of any one person. It is emphasized that the patient's symptoms signify disturbance in the total family and that all of the family members are responsible to some degree for this disturbance. This emphasis is not only verbal, but is given strong reality impact by requiring most family members to be interviewed and to take psychological tests. Often it is further reinforced by expecting multiple family representatives to enter into therapy. What such a procedure does is to reverse almost immediately a destructive process which we have found especially characteristic of disturbed families. This process revolves about a minority of the family group being singled out by the majority of the group as a target for unreasonable exploitation and taking. Illustratively, the children in disturbed families are often found to be the objects of intense depriving and incorporating demands from their parents.

Customarily, it is such minority exploited members who break down first and who are most likely to show up as patients. If one accepts the patient status of such a minority member at face value and sets out to treat him individually, one is in a sense being unfair to him because one is implicitly going along with the fiction that he is the person who has mainly caused his difficulties. One places upon him the burden for events which have resulted from the behavior of his total family group. One only further fixates in him an attitude of accepting an exploited self blaming role which has grown out of his family experiences and which plays an important part in his breakdown. At the same time, while excluding the family members from treatment does make things easier for them at one level, it also causes them great discomfort because it accentuates their guilt about their exploitive orientation. They see the patient put into the role of taking up the heavy burden of unraveling problems that they sense they have had a large part in producing and they feel doubly unfair. But when the patient's difficulties are immediately ascribed by the therapist to the total family, the patient's customary tendency to take the blame is attacked. He is pushed in the direction of approaching his problems with a new perspective. For the first time in a long time he encounters a situation in which other family members are mobilized to share his tension rather than to accentuate it. This lessening of the load frequently results in a dramatic relief of symptoms. It is observed that the family members of the immediate patient also obtain relief of tension through their sharing of the therapeutic load, not only because they come to feel less unfair but also because with the decrease in their guilt they find it easier to permit themselves spontaneous gratification in other areas.

We are now applying the multi–generation approach to a variety of other problems. For example: We are studying variations in a number of psychological functions in normal families over extended generations. We are about to undertake the tracing of psychosomatic symptom patterns in families over extended generations. We are evaluating with test-retest procedures the manner in which therapy forces spread through the family. Overall, we feel that the multi-

generation methodology adds a new and higher degree of precision to the study of many kinds of psychological phenomena.

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HEXAFLUORODIETHYL ETHER (INDOKLON[1]): ITS USE AS A CONVULSANT IN PSYCHIATRIC TREATMENT[2]

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INTRODUCTION

The vapors of hexafluorodiethyl ether (Indoklon) upon inhalation were found to produce convulsions in laboratory animals and man (1, 2). This report deals with data obtained from pharmacological and clinical studies carried on at the University of Maryland and at Spring Grove State Hospital. Interest in Indoklon stemmed from the possibility of its use in psychiatric treatment as an alternative for electroconvulsive therapy. The purpose of this study is to evaluate the effectiveness and safety of Indoklon as a convulsant.

PHARMACOLOGICAL STUDIES

Indoklon (hexafluorodiethyl ether) is a fluorinated aliphatic ether. It is a colorless, mobile liquid which is readily volatile, emitting a mild pleasantly ethereal odor. Its boiling point is 63.9°C. It is insoluble in water, but soluble in alcohol. The vapor is non-inflammable.

The convulsant action of Indoklon was established by animal studies (1). These studies revealed that white rats convulsed when placed in a 3.4-liter exposure chamber with the vaporization of an amount of Indoklon between 0.035 and 0.075 cc. Intraveneous administration of 7 mg./kg body weight to a dog produced, within a minute, a convulsion lasting for 10 minutes. The dog recovered without apparent harmful effects. Indoklon was no more irritating to the conjunctivae of rabbits than ethyl ether.

The effect of other drugs in conjunction with Indoklon inhalation was studied in rats (3). Pentobarbital sodium (30 mg/kg i.p.), thiopental sodium (15 mg/kg i.p.), ether anesthesia and Fluoromar anesthesia blocked the convulsive action of Indoklon. Mephenesin and Dilantin did not block the convulsion. Tridione increased the resistance of rats to Indoklon so that twice the amount of the drug was necessary to produce a convulsion. Both reserpine and chlorpromazine increased the sensitivity of rats to Indoklon. Reserpine was more potent than was chlorpromazine.

To determine the site of action of Indoklon in the central nervous system demedullation, decerebration, and total brain destruction were performed on frogs. It appeared that Indoklon acted on the midbrain and/or medulla.

The electroencephalographic effects of Indoklon were studied on anesthetized monkeys and dogs. The inhalation of Indoklon produced a marked cortical dysrhythmia.

[1] Indoklon: Trade name of the Ohio Chemical & Surgical Equipment Co. for Hexafluorodiethyl ether. This has been acquired by the Smith, Kline & French Laboratories, Philadelphia, Pa.

[2] This paper was presented at the New York Divisional Meeting of the American Psychiatric Association, November, 1957. The research was made possible by a grant from the Ohio Chemical and Surgical Equipment Company and the support of Friends of Psychiatric Research, Inc., with subsequent support by the Smith, Kline & French Laboratories. We also acknowledge with deep appreciation the administrative and clinical support rendered to this investigation by Dr. Isadore Tuerk, Superintendent, and Dr. Bruno Radauskas, Clinical Director, Spring Grove State Hospital.

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Multiple spike and 3–4 per second slow wave discharge occurred initially. This was soon followed by high voltage multiple spiking similar to that elicited by a Metrazol convulsion.

Electrocardiographic studies in dogs showed that neither the pattern nor the amplitude of recordings was affected by exposure to Indoklon. A slight transient tachycardia was occasionally noted. There was a transient decrease in blood pressure of 10–15 mm. Hg during the convulsion. In frog heart perfusion studies, in situ, were performed. Kymographic records of heart rate and amplitude of beat revealed no change after perfusion of the heart with a perfusate containing 2 mg. percent Indoklon.

No toxic effects were observed on laboratory animals after numerous exposures to Indoklon as revealed by hematologic studies, blood chemistry, urine analysis, liver function tests, sedimentation rate, and post–mortem examination.

CLINICAL STUDIES

At the time of this study, from a total of 120 patients for whom convulsive treatment was prescribed, Indoklon was administered to 60 patients selected at random from the total population. The other group of 60 patients was given ECT and will eventually serve as a control for detailed psychological and physiological studies. The patients who were selected for treatment with Indoklon were free of complicating medical disorders. They were exposed to a screening process consisting of a physical examination, an X–ray of the chest and spine and electrocardiogram, routine urine, blood chemistry, hematology and liver function tests consisting of cephalin flocculation and thymol turbidity. There were 720 treatments given to the 60 patients comprising the Indoklon group and approximately the same number of treatments given to the ECT group. Clinical observations to date indicate that there appear to be no differences in the clinical courses of either group of patients. More detailed comparative studies will be reported later when the sampling has reached a sufficient number to make statements of significant validity.

The average number of treatments administered per patient was 12. Some patients ultimately had two courses of Indoklon therapy given several weeks apart. One patient received 25 treatments given consecutively, three treatments per week. Several patients treated with electroconvulsive therapy were then changed to Indoklon and *vice versa*. In all these tentative explorations no untoward results were observed. The quantity of Indoklon needed to bring about a convulsion by vaporization averaged 0.5 cc with no increased tolerance noted with progressive treatments. (If insufficient doses are given the patient may present only mild clonic movements and may not convulse.) On one occasion early in the course of our investigation a patient aspirated 5 cc of the drug in liquid form owing to the use then of a rather crude type of vaporizing apparatus. For about 10 minutes the patient had spasmodic clonic episodes with some degree of laryngeal spasm and opisthotonus. The patient gradually drifted into an anesthetic–like sleep lasting approximately 40 minutes. The pulse, while rapid at first, remained regular and of good volume. The skin was warm, dry, and of good color. When the patient regained consciousness she had no unusual complaints. It would thus seem that an over–dose of Indoklon produces a comatose state, but is not fatal.

The technique for the administration of Indoklon evolved through a series of clinical trials, utilizing at first an inhaler similar to those used for common nasal decongestion. The therapist held the inhaler in one nostril, holding the other nostril closed. The patient, lying on the table, was instructed to breathe through the inhaler. This method was abandoned because of the difficulty the therapist had in holding the inhaler manually and at the same time keeping the patient's mouth and other nostril closed. This difficulty was

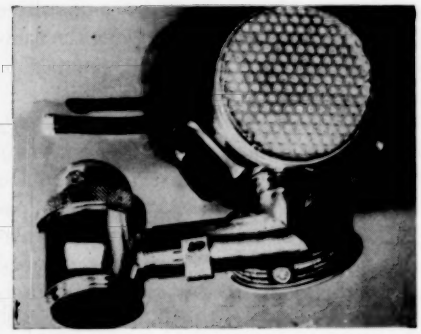

FIG. 1

more marked with an uncooperative patient. To obviate this awkwardness a modified Stephenson mask was used (Figure No. 1). To this mask was attached a transparent plastic container made of polystyrene in which the Indoklon was placed and vaporized by means of a gauze wick suspended in the liquid. The mask is close-fitting and has a one–way flow, with a measured amount of the drug dispersed on absorbent gauze contained in a plastic reservoir with air inlet. This is fastened into the inlet valve of the mask. The patient inhales a mixture of vapor and air (Figure No. 2). The expired air is forced through another one–way valve into a charcoal adsorbent. This apparatus was modified further as seen in Figure No. 3. The modification consisted of attaching the mask to the vaporizer of an ether anesthetic machine.

The apparatus, as it is now currently constructed, permits not only a more precise mixture of oxygen and Indoklon vapors, but also allows the administration of oxygen alone before and after treatment. The vaporizer of the ether anesthetic machine was modified so that a plastic polystyrene cham-

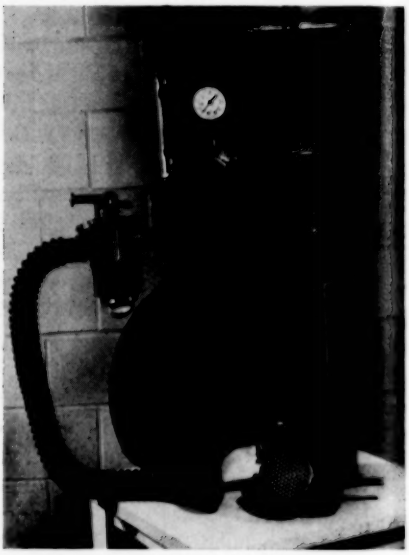

FIG. 3

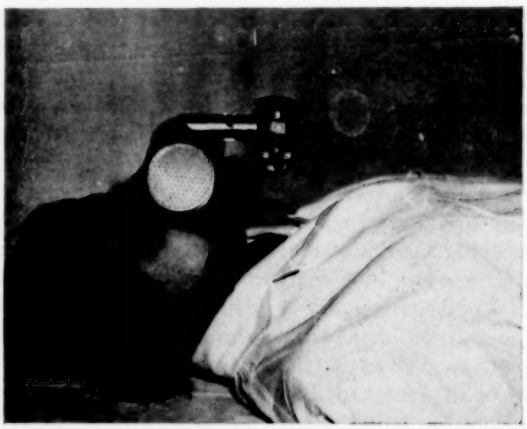

FIG. 2

ber made up the bottom portion. In this the Indoklon and a gauze wick are placed, the gauze wick facilitating the vaporization of the Indoklon. Originally there was some concern that a certain amount of unavoidable leakage of Indoklon vapor might affect the personnel giving the treatment, but with a well ventilated treatment room we have had no untoward reaction in any of the treatment personnel.

The type of seizure resulting from the inhalation of the drug appears to be similar to that produced by electroconvulsive therapy. The most outstanding difference is the gradual onset lasting 10 to 30 seconds in Indoklon–induced convulsion as compared to the more abrupt convulsion of ECT. The onset of the former seizure is heralded by quivering and fluttering movements of the eyelids and mild myoclonic jerks. The beginning of the subsequent tonic phase of the convulsion is indicated by the opening of the jaws. At this point the inhalant is withdrawn. This preliminary preparation of the body seems to diminish the jackknifing effect so characteristic of the onset of electroconvulsive therapy. The average duration of the convulsion is no different from that observed with ECT. However, breathing begins before the clonic phase is completed so that the duration of the postconvulsive apnea is less than that following electroconvulsive therapy.

During the initial phase of our clinical studies with Indoklon a series of EKG tracings were obtained from patients before, during and after seizures (4). A control group of EKG tracings was obtained from patients having convulsive seizures electrically induced. These studies showed that there is some tendency to produce arrhythmias of a transient nature during the course of the convulsion in both groups. Routine blood and urine examinations have remained consistently negative. In a small sampling of EEG studies there appeared to be a diminished amount of delta–wave activity in the Indoklon group in contrast to the large amount of delta–wave activity one finds after electroconvulsive therapy.

Our patients state that their only recollection of the treatment itself was the breathing of an ethereal–like odor. Some of the patients were apprehensive during the induction period and complained of fears of suffocation when the breathing mask was placed on their face. However, with the introduction of pre–ventilation with oxygen and with other increased skill and efficiencies in the administrative technique of this treatment, the patients have complained less of discomfort. At the present stage of development, unconsciousness follows within a few seconds after the start of inhalation of one or two deep breaths of the Indoklon vapor, although during the induction period patients may still display some psychomotor excitement which appears to be very similar to that observed during the early stages of anesthesia.

In our work so far it has been observed that patients have a quieter and more restful recovery period after Indoklon therapy than ECT. The degree of postconvulsive amnesia resulting from this type of therapy is being studied in comparison with that which follows electroconvulsive therapy. However, psychological studies of sufficient sampling are not as yet available for analysis. On the basis of clinical observation alone it appears that the degree of amnesia and confusion resulting from Indoklon is less than that with electroconvulsive therapy. The only complication observed in this group of 60 patients receiving over 700 treatments with Indoklon was one compression fracture of the thoracic vertebrae. In the comparable group of 60 patients receiving electroconvulsive therapy a similar complication occurred. In general, many patients who had experienced this procedure and who had had electroconvulsive therapy in the past, while not feeling enthusiastic about either treatment procedure, seemed to feel less threatened by the inhalation technique. In those patients who had developed an intense fear

of electroconvulsive therapy, this approach offered an alternate choice of treatment, making further convulsive therapy possible.

SUMMARY

Hexafluorodiethyl ether was administered to 60 of 120 patients randomly selected for convulsive therapy. In the 720 treatments administered to these 60 patients there was no failure in bringing about a *grand mal* convulsion. Also, there was no evidence of any change in sensitivity or tolerance to the standard convulsive dose with progressive treatment. The convulsive seizure was similar to that produced by electric stimulation, except for a more gradual onset. There appeared to be less immediate postconvulsive anoxia, and immediate postconvulsive psychomotor activity appeared diminished in comparison to ECT. Subjectively, a majority of those patients who had been exposed to both types of treatment felt less apprehensive with the inhalation procedure. From these results it appears that Indoklon is an effective and safe convulsive agent that can be administered safely and conveniently on a large scale basis.

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PREVENTION OF ANOXIA DURING SUCCINYLCHOLINE–ELECTROSHOCK THERAPY BY THE USE OF A NEW TREATMENT TECHNIQUE

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INTRODUCTION

The use of a muscle relaxing agent during electroshock therapy has now become generally accepted, with succinylcholine chloride the present drug of choice. Current methods of administration using succinylcholine have been summarized by Impastato and Berg (1).

Most of these methods involve the use of a general anesthetic agent (most commonly pentothal), and the administration of oxygen under positive pressure. In the experience of most authors (1, 2, 3, 4, 5) as well as our own, succinylcholine when administered without an anesthetic causes a very disagreeable sense of suffocation and the development of fear and anxiety, leading to marked resistance to the treatment. The use of a general anesthetic, however, involves an added risk to the patient and, especially with pentothal the danger of laryngospasm. In addition, this procedure requires either the services of an anesthetist or for the psychiatrist to become sufficiently proficient in the technique to recognize and treat any complications.

In order to simplify the procedure and make it as safe as possible, we have devised a technique, following the suggestion of one of us, (D.C.W.) using a portable chest respirator (of the type used in some cases of polio) and oxygen, without the use of an anesthetic. By this method the sense of suffocation and the resulting anxiety connected with succinylcholine are eliminated and adequate oxygenation is maintained (Figure 1).

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METHOD

The type of respirator used is the Monaghan portable respirator, Model 100. The EST is given in the morning and breakfast is withheld. Secobarbital, 90 mg. (either per os or I.M.) and Atropine 0.8 mg. I.M. are given 45 minutes prior to the treatment. The patient is fitted with a chest abdominal shell (cuirass) of proper size and is instructed to let the machine "breathe" for him. The largest shell which will fit the patient comfortably should be used. After the patient lies on the table, the cuirass is adjusted snugly, but not uncomfortably tight, and the machine is turned on. The rubber hose from the machine is then connected to the chest shell.[3] The only material worn over the chest is close–fitting stockinet. The pressure is adjusted to 5–10 mm. Hg. positive and 25–30 mm. Hg. negative. Respiratory rate is regulated individually with usually a normal respiratory rate of 14–18 per minute being sufficient. Succinylcholine is then administered rapidly I.V.

There appears to be no precise way of estimating the correct dosage of succinylcholine. Giving a pre–test dose to ascertain muscular reaction has been described (1); however, we feel this is not of consistent help and have relied chiefly on the patient's weight and muscle mass as a rough guide to dosage, with the results of a treatment or two being the deciding factor. In our experience, the dosage range has been 20–45 mg. with 30–35 mg. average for the normal sized male patient. We prefer a complete elimination of the convulsion rather than mere "softening".

[3] Although the operation of the respirator is quite simple, the physician should familiarize himself with the machine and the manual of instructions before using.

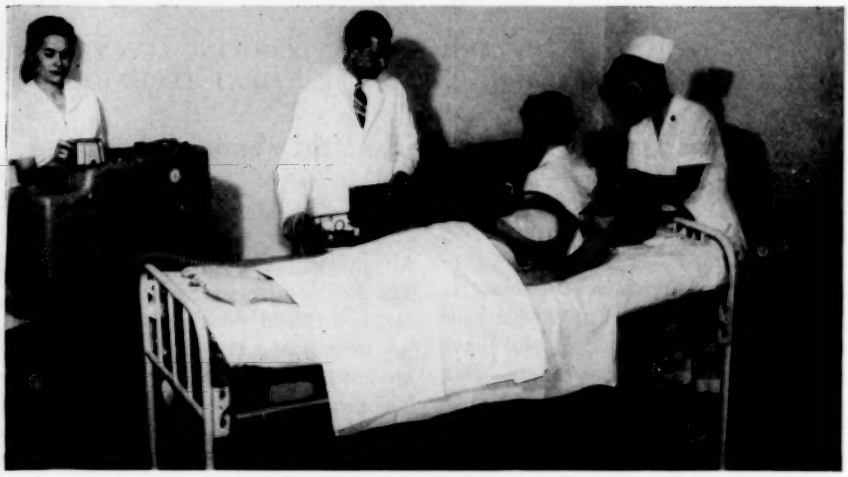

FIG. 1. Illustration of technique described in text.

When the patient has relaxed sufficiently (usually in about 45 seconds) an airway is inserted to a level just above the vocal cords, and O_2 begun. EST is given 60–90 seconds after giving succinylcholine. Occasionally it has been necessary to wait longer, the case of one patient as long as two and one–half minutes, for a satisfactory succinylcholine effect. O_2 and the respirator are continued throughout the convulsive and post–convulsive period until the patient resumes spontaneous respiration (usually 3–6 minutes after administering the drug). After EST there may be some secretions and we find it desirable to suction the patient routinely. The use of a slotted plastic airway facilitates this.

RESULTS

This method has now been used for 193 treatments in 18 patients with very satisfactory results. During 167 of these treatments, the arterial oxygen saturation as measured by the ear oximeter method was determined. The oximeter is an instrument which measures rapidly the oxygen saturation of arterial blood in minute vessels *in vivo*, without trauma or acupuncture. Our instrument measures photoelectrically the absorption of visible red and infra–red light by the blood, which ratio is a function of the percentage saturation of the blood with oxygen. A pickup unit (earpiece) is attached to the pinna of the ear and direct, continuous readings from a galvanometer scale are obtained (6, 7). In 133 (80 per cent) of the treatments measured, the per cent O_2 saturation remained above 90 per cent for the entire period of treatment. During 10 treatments (6 per cent), readings of below 70 per cent (a point at which there is definite cyanosis) (8) were obtained, but in most instances for only a few seconds after EST with a rapid return to normal. Oximeter determinations were done on 30 control treatments (standard EST without succinylcholine) with almost all falling below 90 per cent. These results are reported in Table 1.

Most of the low readings were in the beginning during the period of developing and perfecting our technique. Improved readings have been obtained with minor adjustments; such as using a different size respirator jacket, obtaining proper fit, increasing pressure and respiratory rate, and maintaining a satisfactory airway. The maintenance of an adequate air exchange is of utmost im-

portance. Almost all of our low oximeter readings have been discovered to be because of difficulty here. Once this was corrected, readings stayed in the normal range. An adequate air exchange is easily maintained by using an airway and securely supporting the jaw at all times. In some recent patients, normal O_2 saturation levels have been obtained by the respirator and room air alone without using oxygen.

From the very important standpoint of patient comfort, the chest respirator eliminates the disagreeable sensation of suffocation so often complained of by patients receiving succinylcholine without anesthesia. All of our patients have been carefully questioned about their reactions during the treatment. None of them has complained of any feeling of suffocation or any other adverse symptoms. One patient complained of feeling the airway in the throat, but this complaint was overcome by waiting a few seconds longer until more complete paralysis before inserting the airway. Some patients have described a feeling of the succinylcholine taking "hold" of them, probably coinciding with the initial increased tonus associated with the drug, and then going through them until it reaches their head. This sensation, however, is described as not being unpleasant.

TABLE 1
Summary of Results

	EST with Succinylcholine Respirator and O_2	Control (EST only)
Total patients	18	6
Total treatments	193	30
Treatments with oximeter readings	167	30
Treatments with readings above 90% O_2 saturation (normal)	133 (80%)	1 (03%)
Treatments with readings between 70% and 90% O_2 saturation	24 (14%)	12 (40%)
Treatments with readings below 70% O_2 saturation (cyanosis)	10 (06%)	17 (57%)

ILLUSTRATIVE CASES

Case 1. Mr. A.T., a 61 year old white male farmer was brought to the hospital in a very depressed and withdrawn condition. He had been markedly schizoid for 16 years and depressed for six months. Feelings of self-derogation and persecutory delusions were present. He was a very tall, thin, gaunt man, appearing older than his age who had a right peroneal palsy as the result of an old cerebrovascular accident. X-rays revealed degenerative changes in most of the vertebrae and, although there was stiffness and kyphosis of the spine, a good fit was maintained with the Size 5A cuirass. He received a course of eight EST, seven of them with the use of the respirator and succinylcholine. The patient improved but began to relapse and a second series of six EST was given, all of them with the respirator and succinylcholine. This time the patient's improvement was sustained. While there was verbal protest to the shock treatment initially with delusion formation concerning it, this disappeared as treatment progressed and at no time was any objection made to wearing the respirator jacket.

Case 2. Mr. E.H. is a 65 year old white male, admitted to the hospital with the classical picture of an involutional psychotic reaction. Symptoms consisting of generalized aches and pains, intermittent hot flushes, and restlessness and insomnia had been present with increasing severity for the preceding several months. At the time of admission the patient was markedly agitated and had become self-destructive. On examination he was found to be a stockily built, extremely hyperactive person who was severely depressed. Electrocardiographic tracings revealed Q-R-S wave changes probably indicative of myocardial damage. Because of the patient's age and the electrocardiographic findings, EST modified by succinylcholine chloride was considered to be the treatment of choice. The respirator was used as the means of artificial respira-

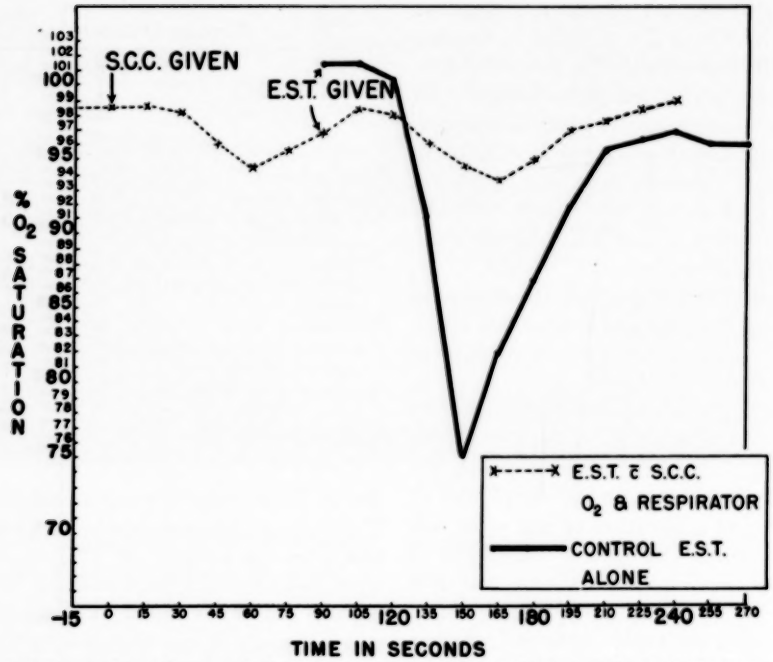

FIG. 2. A comparison of per cent O_2 saturation by the ear oximeter method of the average of 18 treatments given *Case 2.* in the text, and the average of 12 treatments of standard EST given to a control subject (a 27 year old male in good physical condition).

tion, which the patient has tolerated without difficulty (Figure 2.).

CONCLUSION

Although the experience with this procedure is limited, it does appear to have a number of advantages over other methods. It eliminates the danger and inconvenience of general anesthesia with its usual risks. Anesthesiologists have pointed out the dangers of pentothal, and the average psychiatrist usually does not have the training or experience to give the drug with complete safety or security. Adequate oxygenation is maintained; the method is simple and rapid, and does not require the services of an anesthetist. Also there is no sense of hurry as has frequently been observed in situations in which succinylcholine has been given alone. EST can be delayed until the drug has taken full effect. The only disadvantage is the initial expense of the respirator equipment. It is conceivable that there might be some difficulty in the case of markedly uncooperative individuals. However, we have used the method successfully with disturbed catatonic patients. In none of our patients has there been any resistance to wearing the cuirass.

A probable contraindication is marked chest or lung pathology, notably a fixed chest wall or marked skeletal deformity of the chest. Marked emphysema might present some difficulty, although four of our patients—treated without incident—had mild to moderate emphysema. The two patients we have had who were difficult to oxygenate had a marked increase in A-P diameter of the chest plus a great deal of subcutaneous tissue (as in obesity). This makes it difficult for the transmission of pressure necessary to move the thoracic cage. Caution should be used in treating this type of patient.

SUMMARY

A method of giving EST with succinylcholine and a portable chest respirator is described.

The necessity of giving a general anesthetic with its danger of laryngospasm is obviated.

Adequate oxygenation is maintained and no adverse effects of succinylcholine, such as a sensation of suffocation, have been noted.

The method is simple and rapid, and contraindications are limited to marked chest and generalized lung pathology. Caution should be used in treating markedly obese patients.

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A COMPARISON OF TWO KINDS OF FLICKER PHENOMENA AS INDICATORS OF CNS INVOLVEMENT

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INTRODUCTION

Flicker Fusion Frequency (FFF) has been a subject of systematic study since 1740 (6) and has resulted in a tremendous amount of published literature by individuals in many and varied fields. This study attempts to reiterate the relationship between central nervous system involvement (sometimes referred to as "organicity") and FFF, and to explore experimentally the possibility that alternate flashes of light of unequal brightness are superior to flashes of equal brightness in ability to distinguish individuals with involvement of the central nervous system.

The idea of using alternate flashes of light of unequal brightness stems from work by Enzer et al. (1) in which it was found that if a rotating disc with a wedge–shaped cut was placed in front of an AC light source and revolved at speeds above the usual fusion threshold (which is usually between 30–60 flashes per second) that another "flicker" or stroboscopic effect would appear at about 105 fps, reach a peak at about 115 fps, and disappear at about 122 fps. The authors called this "second flicker". After a short interval of 2–5 fps a "third flicker" appears, reaches a maximum at between 130 and 140 fps, and then fades out between 145 and 150 fps. No further flicker was detected at higher speeds.

When using "second" and "third" flicker it was found that 31 out of 33 patients with cerebral lesions produced lower flicker scores (that is, perceived the light as "fused" or steady at a lower speed) than did any of the members of a control group of normals; three of them in the absence of other positive neurological findings which were subsequently obtained. On the basis of "first" flicker only 15 of the 33 patients were thus diagnosed.

The production of "second" and "third" flicker in this instance was a product of interference with the luminosity waves of the AC current. As the disc begins to rotate in harmony with the 60 cycles per second of the AC current the alternating flashes of light take on discretely different intensities, thus producing the flicker phenomena. However, the brightness difference between the flashes was limited to the range available from the fluctuations of the AC current. The flicker apparatus used in this study is modified so that the range of brightness differences that exist between the alternate flashes of light is much greater. This allows for a better defined experimental situation and for a more systematic investigation of the phenomena.

PROCEDURE

The subjects used in this study consisted of two groups of 21 men each. The control group were all healthy males known to be free of any symptoms indicating damage to the central system or to have visual defects other than refractive error correctible by glasses. Fifteen of them were Navy hospital Corpsmen, one a physician, and four of them patients at the U.S. Naval Hospital at Philadelphia. The latter four were retired military personnel (ages 62 through 65) who were hospitalized for other than central nervous system disorders, such as arthritis or a broken limb. In addition, these four subjects were included in the control group only because they demonstrated a high level of vigor and alertness and were leading active lives just prior to their admission to the hospital.

The experimental group included 21 men who were patients at the U. S. Naval

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Hospital at the time of the study. Each of them had been processed by the hospital staff and given a final diagnosis that was considered to be accurate to a very high level of confidence. Each member of this group had also been given an eye examination and declared to be free of symptoms which might indicate defects of the visual globe (including the fundi). The general type of central nervous system involvement represented by these subjects is reported in Table 1.

TABLE 1

CNS Involvement of Experimental Group

Non-psychotic mental disorder with demonstrable physical etiology or associated structural changes in the brain	5
Cerebral vascular accident	3
Cerebellar degeneration	2
Pituitary tumor	2
Multiple sclerosis	2
Accidental trauma to cortex and brain stem	1
Left frontal lesion, partial excision by surgery	1
Epidural hemorrage, surgical removal	1
Fragments in right frontal lobe from seven year injury; epileptic attacks	1
Medulloblastoma of 4th ventricle	1
Subdural hematoma, removed by surgery	1
Advanced paresis, arrested since 1942	1

A group containing miscellaneous diagnoses were used in this study because it has yet to be demonstrated that flicker phenomena are capable of differentiating between different types of neurological involvement and because present-day methods of diagnosis do not allow for exact categorizing. In addition, it should be emphasized that this study is concerned not with the correlating of flicker with specific areas of the nervous system, but with the comparison of two different kinds of flicker phenomena.

Two variables pertinent to rate of flicker fusion were considered; refractive error and age. Since a refractive error in the lens of a subject may cause the light source to fall upon a greater area of the retina than represented by the visual angle, the flicker rate could be spuriously altered. Therefore all subjects whose histories or examinations indicated such an error were included in the data only if they wore corrective lens during the testing. The two groups were also matched in age as closely as possible. Of the 21 pairs of subjects 9 were matched exactly in age, 11 were matched no more than two years apart, and one pair was three years apart in age. The mean age for the experimental group was 39.8 years and the mean age for the control group was 39.3 years.

Since no available equipment was able to produce alternate flashes of differing brightness as required, apparatus had to be especially designed and built. It was contained in a large box approximately 18 and one-half inches by 24 inches square and 13 inches high. In the front of the box, facing the subject, was a circular opening of frosted glass .628 inches in diameter. The on-off light stimulus was presented to the subject through this opening or test patch. The light source was provided by a 6 volt, 50 watt, seasoned, GE frosted bulb, powered by a storage battery (DC) kept at 100 per cent charge. This source was diverted into two channels (see Fig. 1) and a rotating disc interrupted each of these beams alternately. The disc contained a wedge-shaped opening that included 25 per cent of its circumference. The intensity of each beam was controlled by variable polaroid filters. Thus it was possible to present to the subject an on-off light stimulus with a 50-50 light-dark ratio and to control the speed and intensity of each of the alternating flashes.

The motor which rotated the disc was coupled with a GE voltage stabilizer guaranteed by the manufacturer to maintain the output voltage within limits of plus or minus one per cent. The speed of the disc was measured by chronometric tachometer which was mounted on top of the box and connected directly to the motor shaft by means of a right angle mitre gear box. The tachometer was guaranteed by the manufacturer to be accurate within one per

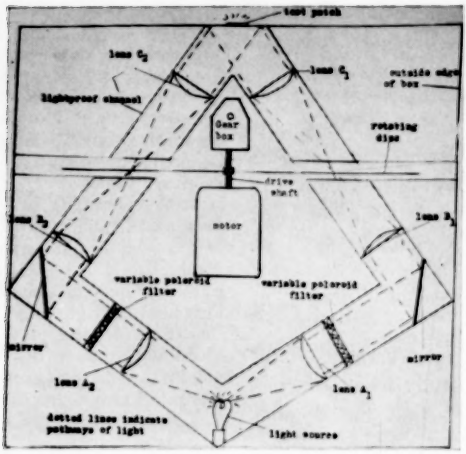

FIG. 1. *Diagram of flicker apparatus:* Light passes from source through lens A, which is placed at focal length. Parallel rays are then controlled for density by variable poloroid filter. Mirror reflects rays through lens B, which focuses rays upon rotating disc. Lens C then makes rays parallel, which then illuminates test patch. Rotating disc allows light from each side to illuminate test patch alternately, interspersed with equal intervals of darkness.

cent and measured directly the speed of the disc to within .08 rps.

On the outside of the box and in front of the test patch was mounted a Kodak shutter which allowed the stimulus light to be exposed for precise lengths of time. The subject was placed in front of the box with his eyes on a level with the test patch and with his head held in position by a chin cup at a distance of 36 inches. This combination of distance and size of test patch created a visual angle of 1 degree.

When the subject was ready to begin, the speed of the disc was set low enough to produce for him a flickering light emanating from the test patch opening in the front of the box. This speed was set at 9.0 fps in the case of the CNS group and at 30 fps when presented to the normal subjects. The examiner would then say "Ready", activate the tachometer, and then expose the test patch for exactly two seconds. The speed of the disc was then recorded together with the response of the subject. If he perceived the light as flickering he would say "Yes"; if he perceived it as being stable he would say "No". The speed of the flashes was then increased by 1.5 flashes per second and the process repeated until the subject reported "No". The flash rate at this point was recorded as the fusion point for that particular eye and that particular condition. The threshold was determined for the right eye and then the left eye for each of five conditions for a total of ten judgements for each subject.

TABLE 2

Brightness Levels in Foot Lamberts for Each of the Alternate Flashes of Light for Each of Five Conditions

	Condition				
	I	II	III	IV	V
Flash A	18.9	18.9	18.9	18.9	18.9
Flash B	18.9	19.0	14.7	10.1	5.2
Diff.	0.0	1.9	4.2	8.8	13.7

The five conditions consisted of one in which the alternate flashes of light were of equal brightness, and four other conditions in which the alternate flashes were of unequal brightness. The nature of the five conditions are described in Table 2.

These brightness differences were selected

as representing a wide range and as being conveniently reproducible as a function of the unit scale of the variable polaroid filter that was placed in front of each of the twin light sources. These measurements were taken by means of a MacBeth Illuminometer and in keeping with techniques devised especially for that device (5).

RESULTS AND DISCUSSION

The data in this study are derived from ten threshold measurements for each of 42 subjects; one for each eye under five different conditions. Because CNS pathology may be reflected in the performance of either the left eye or right eye, depending upon where the lesion or disease is localized, the problem existed as to which of the two scores (score for the right eye or score for the left eye) to use in analyzing the data. While it is logical that significant intra-individual differences could exist between the left and right eyes, even in normal subjects, there is no basis for deciding which eyes to compare between the normal and experimental subjects. Therefore it was decided to compare that eye of each experimental subject which achieved the lowest score under any particular condition (on the grounds that it was the most likely to reflect the CNS involvement) with that healthy eye which achieved the lowest score under the same condition. This technique might have lowered the ability of the experimental design to detect true differences between the groups, but since highly significant differences were subsequently obtained in spite of this factor, it only serves to increase to some unknown extent the obtained level of confidence.

The specific problems of this study were to determine if flashes of equal brightness were able to distinguish between a CNS involved group and a control group of normals; to determine if flashes of unequal brightness were likewise able to make such a distinction; and to determine if flashes of unequal brightness were in any way superior in making this distinction. Therefore several comparisons were made between the two groups; 1. on the basis of scores achieved under Condition I; 2. on the basis of scores achieved under Conditions II, III, IV, and V; 3. and between scores achieved under Condition I (flashes of equal brightness) and each of the other four conditions (flashes of unequal brightness). In each case the distributions of scores achieved by the CNS involved group was lower than that produced by the control group. The results of these comparisons by means of the Mann-Whitney U Test (3) are shown in Table 3.

When the scores based upon Condition I were compared with those derived under the other conditions it was found that no significant differences existed. The most significant P found was .34. The reason that the lower end of the range for the CNS group was always 9.0 fps is that two subjects could not perceive flicker at the lowest speed at which the apparatus could operate, which was 9.0 fps.

From the results outlined in Table 3

TABLE 3

Range, Median, and Significance of Difference Between Scores Achieved by CNS and Normal Groups Under Each of Five Conditions

	Condition									
	I		II		III		IV		V	
	Range	Median	Range	Median	Range	Median	Range	Median	Range	Median
CNS	9.0–72.2	51.8	10.0–79.5	51.2	9.0– 78.2	53.5	9.0–80.8	60.0	9.0–85.0	65.3
Normal	38.5–93.7	60.3	36.8–80.2	61.5	40.8–100.0	64.7	51.3–96.0	70.8	53.7–95.0	71.8
P	<.001		<.001		<.003		<.0009		<.003	

TABLE 4
Scores in Flashes per Second for CNS and Normals Under Condition IV

CNS	Normal
80.8	96.0
70.3	94.5
69.2	79.5
65.7	74.7
65.7	73.7
65.2	73.5
63.0	73.3
62.5	71.5
61.7	71.2
60.2	70.8
60.0	70.8
58.2	69.5
57.8	66.2
57.8	65.7
56.7	62.0
55.0	61.8
54.5	60.8
49.7	60.3
43.2	60.0
10.3	51.5
9.0	51.3

it may be concluded that each of the five conditions are capable of differentiating between normal subjects and those with CNS involvement, but that neither method is superior to the other in its ability to make such a differentiation.

It is interesting to note two items contained in Table 3; that the high part of the range increases as the brightness difference between the flashes increases, and that the highest scores achieved are so high. Since a change in brightness difference is essentially a manipulation of the light–dark ratio the former condition is easily predicted. However, the extreme range of scores is unusual, being forty or more fps higher than those generally reported in the literature, and higher than has been reported as ever being achieved except under very special conditions where the eye is electrically stimulated (2). In one instance a control subject achieved a Condition IV score of 156.7 fps, at which speed the apparatus became undependable. (This score is not included in the data because only the eye with the lowest score was taken.) Thus the expectancy of how high flicker rates may reach should certainly come under close reexamination.

As an illustration of how differentiating flicker might be on an individual basis the individual scores achieved by each member of the two groups is shown in Table 4 for Condition IV. This condition is presented as an example because it is the most discriminating of the five conditions, and therefore represents a maximum efficiency. It should be noted that only four, or roughly 20 per cent of the CNS cases are discriminated against without selecting any of the normals, and that in order to select 50 per cent of the CNS group about 24 per cent of the normal group must also risk being selected. Actually, such an efficiency of selection is quite acceptable for this type of task, but in view of the fact that similar accuracy may be achieved with other techniques which would not require first the extensive research needed before flicker could be used, it would appear that the practical clinical application has its limitations—at least in terms of these particular types of cases and within the limitations of this study.

Because CNS involvement might easily be reflected in the test score achieved by one eye and not the other it would appear logical to assume that the difference in scores achieved between the right and left eyes for each individual in the CNS group might be different from those achieved by the group of normals. This comparison is summarized in Table 5.

Generally, members of the CNS group produced larger differences between their left and right eyes, but only Conditions II and IV produced statistically significant differences. Why this should be the case is not readily explainable. Re–examination of the raw data revealed no statistical artifact (i.e. undue weight being given to extreme scores, etc.) which might have accounted for the difference. If these significant dif-

TABLE 5

Range, Median, and Significance of Difference Between Intra-Eye Scores (Difference Between an Individual's Left-Eye and Right-Eye Score) Achieved by CNS and Normal Groups Under Each of Five Conditions

	Condition									
	I		II		III		IV		V	
	Range	Median	Range	Median	Range	Median	Range	Median	Range	Median
CNS	0.2–44.5	2.2	0.0–51.5	3.8	0.0–41.6	4.1	0.0–47.0	4.5	0.2–30.5	2.8
Normal	0.0–18.5	2.8	0.1–11.3	1.9	0.3– 7.5	3.4	0.0– 6.9	2.8	0.3– 8.8	3.0
P	<.35		<.05		<.27		<.01		<.37	

ferences represented some systematic phenomena then some type of continuum might be seen in the data as the brightness differences between the alternate flashes of light was increased. That is, the significance of difference could be expected to show some linear change as the brightness difference changed. However, such does not appear to be the case and no particular conclusion appears warranted by these data.

The prime purpose of this study was to explore the possibility that new contributions might be made by the use of flicker based upon alternate flashes of light of different brightnesses, and within the limits of this study no such contribution appears to have been directly made. However, this does not preclude the possibility that a broader experimental design (i.e. use of a wider ranger of brightness differences, etc.) would result in more positive findings.

SUMMARY AND CONCLUSIONS

Two types of flicker phenomena were compared as to their ability to distinguish between normal subjects and individuals with involvement of the central nervous system. One type consisted of flashes of light of equal brightness and the other type involved alternate flashes of light of unequal brightness. Five different conditions of brightness difference (including a difference of zero) were compared in their ability to distinguish between a group of 21 men with various kinds of CNS involvement and a group of 21 normals. The following conclusions were made:

1. Alternate flashes of light of equal brightness significantly differentiate between normals and individuals with involvement of the central nervous system. The normals tend to produce higher scores.

2. Alternate flashes of light of differing brightness also significantly differentiate between normals and individuals with involvement of the central nervous system, but with no greater ability than do flashes of equal brightness.

3. Flicker fusion scores previously reported as being representative of the highest to be expected appear either to be too low or that the use of alternate flashes of differing brightness tends to produce flicker scores of much higher magnitude.

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DYNAMIC ASPECTS OF PSYCHIATRIC SYMPTOMS AMONG PRISONERS IN TERMS OF AGGRESSION

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The growth of dynamic psychiatry has led to increased understanding of the origins and forms of the various psychopathologic reactions of sentenced prisoners. Most modern students recognize that the individual's prior life experiences as well as the stresses of his more immediate conviction and incarceration operate together to condition the symptomatic characteristics of the psychiatric illness he may develop in prison, or whether overt psychiatric symptomatology develops in the first place. Thus the old term, prison psychosis, has become justifiably obsolete, and in some quaters has been replaced by the term *situation psychosis*, a generic label that implies that overt psychopathology is *evoked*, and that the more profound characterological or personality deformities that have predisposed the individual to it must be sought through more thorough genetic and dynamic investigation.

A corollary to this modern view is the fact of observation that incarcerated individuals display the known gamut of psychiatric syndromes and symptoms, although the relative frequency of the various syndromes, notably among the so called psychotic reactions, is different from that observed among groups of non-imprisoned individuals. This variation in relative frequency leads at once to several important questions which psychiatrists who work in prisons and reformatories often ask:

First, as one gains in experience among prisoners, he is deeply impressed with the ubiquity of schizophrenic illness among them —if this is a valid observation, then why should it be so?

Second, most observers agree that the incidence of depressions, notably the classical, psychotic depressions, is exceedingly small among prisoners, and even among those men whose sentences will occupy the greater part or the remainder of their lives. Again, why?

Third, how is it that so many sentenced prisoners develop paranoid symptomatology, whether it be acute and disorganized or chronic and pervasive?

Fourth, how is it that competent psychiatrists previously diagnose character disorder ("psychopathic personality"), only to have the patient so diagnosed develop unmistakable symptoms of schizophrenia after sentence, or later in the course of his incarceration? Can we label this common phenomenon as an initial misdiagnosis? If not, how else can we understand it?

Finally, is there a syndrome that can, with some justification, be called a "prison psychosis"?

It is to these and several related questions that this paper will briefly be addressed.

DEPRIVATION, FRUSTRATION, AGGRESSION, AND SELF-DESTRUCTION

Irrespective of our individual views of the validity or the essential justice of specific laws, it is generally agreed that people who transgress them, whether singly or repeatedly, are manifesting what might be called inordinate aggressiveness; we recognize this, whether any specific transgression was "willed" or "consciously motivated", or whether it was committed without apparent or accountable motivation, as often in the case of an offender who is considered "irresponsible" in the legal sense.

The life histories of recidivistic offenders are more often filled with episodes or periods of overt aggression, of destructiveness toward others or property; or else, clinical ex-

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amination discloses either obvious hostility, or hostility that is thinly veiled behind a facade of passive aggressiveness. The essential element here is, of course, the recognition that aggression may be expressed directly toward objects, or else it may be displaced onto substitute objects. When we inquire into the basis for this aggression, we discover past histories of significant affective deprivation, of rejection by surrogate figures, with the child figuratively cut adrift from any consistent possibilities for developing a "healthy super–ego"; indeed, the study of offenders discloses a preponderance of personalities, part of whose difficulties result either from a "defective super–ego", or else from a super–ego of inordinate stringency, and there are some who believe that it is usually the latter. Of significant importance is, of course, the intimate relationship between frustration and aggression, so ably described by the Yale group (3, 4).

The modern psychiatrist is, of course, interested in the more specific dynamics in these cases; thus, when he observes clinically evident hostility (of which aggression may be defined as a behavioral correlate), and when he discovers the ubiquitous early affective deprivations, he sees "criminal" behaviour in the light of self–punishment; he notes personalities which cannot tolerate their own aggressive, retributive drives toward rejecting surrogates or their substitutes, and so turn these drives upon themselves. A constant common denominator remains, however, in the form of the basic needs that were never met in these cases; thus, the welter of hostile, aggressive, destructive, self–punitive impulses spring from a personality of enormous fundamental dependency.

When we thus speak of "oral characters", we simultaneously refer to all of these characterisites, of which the dependent (oral; sucking; incorporative) aspects and the aggressive (biting) aspects play roles of equal importance. Indeed, the aphorism that prisons are "greenhouses for oral characters" is not without justification.

FREQUENCY OF SCHIZOPHRENIA

In the light of our contemporary knowledge of the dynamic structure of the personality of schizophrenic individuals, therefore, it should not come as a surprise to find that large numbers of prisoners are victims of schizophrenia. Indeed, Rüdin in 1909 (12), and Wilmanns in 1940 (20) concluded that a preponderant number of men sentenced for serious crimes (felonies) were schizophrenic. Comparative statistics differ, however, such that some investigators hold that a majority, and others that only a minority of sentenced offenders are "psychotic". After study of these reports, one is tempted to conclude that the term, psychotic, is often used to label those inmates who show pronounced secondary symptoms (2) or, in other words, men who are more floridly sick; alienists and other forensic workers are often wont to equate legal insanity with psychosis, and hence conclude that most of their patients are not "psychotic".

Our experience with an admittedly selected group of psychiatrically ill federal prisoners substantially agrees with the conclusions of Rüdin and Wilmanns. Most of our psychiatric patients and a surprising number of medical and surgical patients turn out on careful study to be schizophrenic. It should perhaps be remembered that our modern concepts of the phenomenology of schizophrenia and of the schizoid personality rest upon the primary symptoms (Bleuler), including the classical thought disorder, however slight, which can elude the inexperienced examiner, but will almost always show up on careful projective testing. Thus, our view of schizophrenia is that of a "process", or way of life (H. S. Sullivan, 17, 18), in which the ego defends itself, or maintains metastable equilibrium by means of what Karl Menninger calls "higher order devices" (10).

The data we have support Wilmanns' conclusion that the so called criminal career can be related to "... a schizoid makeup or an

insidious schizophrenic personality change" (8). If we substitute Menninger's more satisfactory terminology for the somewhat jaded term, schizophrenia, we conclude that a very large part of our prison population consists of individuals whose oral cravings, whose estrangement, whose confusion, and whose chronic unhappiness add up to a profound and pervasive incapacity for intra- and interpersonal living. The problem thus becomes sociological as well as psychiatric, and it includes the sociology of life inside prisons as well as outside them.

DEPRESSIONS

Most writers, including experienced prison psychiatrists, testify to the relative rarity of classical depressions among even long term and life offenders. We must, of course, distinguish between depressions and depressive feelings, since the latter are doubtless as common among prisoners as they are among people "in the free world". In addition, we have seen few serious suicidal attempts by prisoners; although many inmates may overtly or convertly threaten suicide, and not a few manage to mutilate themselves in various ways and degrees despite the most careful supervision, most of the attempts turn out to be more or less transparently manipulative rather than convincingly death-oriented.

Our hunch has been that a major factor militating against the occurrence of full-blown depressions and convincing self-destructive acting out is the omnipresence and ever readiness of more direct, external objects of aggression; namely the prison administration and staff, including the custodial officers. It is significant, for example, how universal is the real or purported dislike for these personnel among the immates, the characteristics of the individual officers' respective personalities notwithstanding. A basis for the availability of these aggressive objects is the general dislike of and ever-present proneness to revolt against any authority figures; in addition, the relatively rigid prison atmosphere, the compulsive routines the inmates must live by and, however toned down in progressive institutions, the punitive flavor of the place tend to precipitate and maintain more alloplastic manifestations of hostility, rather than to permit self-encapsulation and more self-directed hostility. Empathy, expressions of sympathy, tolerant acceptance and understanding of inmates by most of the official staff are not plentiful; hence, the constant presence of what can be regarded as an antidepressive regime. Those recently sentenced inmates who arrive in a depressed state tend to clear quickly, hence the old aphorism that to cure a depression one need only sentence a man to the penitentiary.

Another factor militating against depressions is that time-honored and complex phenomenon termed the "prison code". As best any non-inmate can comprehend it, the "code" loosely comprises a wide spectrum of attitudes and behavior primarily of a self-defensive or self-preservative nature. Although specific details of the "code", and the comparative strictness with which it is carried through vary from prison to prison, certain common features can be discerned. Thus an inmate must not become known as a "big talker"; he must under no circumstances show friendship for an officer; he must never "squeal" or inform on another inmate, regardless of the situation; he must never threaten another inmate without being prepared to carry through his threat, for fear of becoming known as a coward; he is expected to "stick together" with congenial inmates in his subgroup, and must stand up for them if need be; he must be prepared to lie to cover a friend. But above all, inmates must needs depend largely upon themselves and their own individual resources to get along in the prison environment[2].

[2] Recent studies on sensory deprivation and on perceptual and emotional isolation have special relevance in this connection. Cf. the paper, Sensory Deprivation—A Review, by Solomon, P. et al., Am. J. Psychiat., **14**: 357-363, 1957 for a pertinent review and bibliography.

The penalties for infraction of these *sub rosa* regulations are often severe indeed. The dyssocial group activites that go on under cover, the constant fear of homosexual advances or assaults, charge the atmosphere with many anxiety–provoking cues. We feel that such an atmosphere is not conducive to outright depressions. The alternating negative feelings for officers, on the one hand, and for the general milieu of the prison, on the other, tend, if anything, to evoke hyperalertness. Indeed, if depression is rare, gross anxiety and strong efforts to bind it, conscious or otherwise, are the rule.

PARANOID PHENOMENA

That paranoid thinking abounds in prisons hardly requires comment. What does require considerable thought is the basis for the large number of inmates with paranoid schizophrenic illness who are referred for treatment.

Several dynamically important factors fall into place when this problem is studied in more detail. To begin with, we assume that a very significant number of sentenced offenders can justifiably be considered chronically and pervasively "mixed up" at least to the point of being diagnosed schizoid (in the broadest sense), and at most, actively schizophrenic. Among the insecurities and confusion these individuals suffer are problems associated with the ego boundary (5, 13); embedded in this problem is the well recognized confusion over sexual role and identity considered by many to be a part of schizophrenic disturbance from the earliest period in the growth of the personality. Concomitant with these residuals of early fixation, there emerges in the chronic offender repetitive antisocial behavior that represents active, if however crude, efforts at mastery; again, we witness the dependency and the hostility, the ambivalence that pervades these personalities (anal traits). The use of projection and denial is enhanced as antisocial acting out brings down increasing retributive sanctions from others.

Consider now the thinking of such a personality when he is apprehended, sentenced, and jailed. The "bum rap" is the *mot juste*; if reality is further denied, the *mot juste* assumes the status of belief. Hence, the querulousness, the passive obstructionism, the annoying litigiousness of the inmate.

Placed in a prison, now added factors become operative. In a prison all inmates belong to the same sex, and the "code" can in part be comprehended in terms of the behavior of preadolescent boy–gangs; in the words of one astute inmate, "It's just like the little boys' protective league." But in the case of physically adult men, the "league" is a sword with two edges—deprived of women, sexual outlets pass from autoerotic activities to impulses toward the ubiquitous male objects. In any case, the whole situation is productive of significant homosexual fears, and homosexual acting out becomes the order of the day for many inmates.

In such a setting, a very large proportion of acute psychotic states are of the paranoid variety, and many of these are acute attacks of "homosexual panic." In other cases, the protracted carping, complaining, passive resistance, or outright aggressiveness are so well known as to be considered one form of "typical" situation psychosis of prisoners by many textbook writers.

REGRESSIVE CHANGES AND THE PROBLEM OF THE SO CALLED "TRUE" PRISON PSYCHOSIS

In a prior section we commented briefly on the relative rarity of frank depressions among prisoners, in part in terms of the accessibility of aggressive objects, and of the institutional atmosphere with its antidepressive features. In certain cases, however, one may observe either relatively rapid or more protracted realignments of inmates' defense mechanisms, such that the aggressive objects and the antidepressive cues no longer operate in their usual manner.

Individuals who experience the defensive realignments we shall discuss here tend to fall into either of two categories; they are

either recently sentenced men whose reactions to what has happened to them are experienced as a shock, or else they are men whose long sentences leave little or no hope for parole or release within a reasonable period of time. Under such circumstances, the individual's entire personality undergoes profound regression.

In the acute cases, one observes burgeoning, short term psychotic states usually labelled as undifferentiated schizophrenias. There occur marked confusion, disorientation, impairment of grasp and recall; the patient loses his way, wanders about in a daze, becomes excessively dependent upon his surroundings; he may mutter unintelligibly, or show thought disorder to the point of a word salad; there is always significant anxiety and, at times, agitation. In some cases the picture assumes the peculiar characteristics of the so called pseudo–fugue or pseudo–twilight state—the facies becomes dreamlike, detached, with the features of profound affective flattening; indeed, the clinical picture closely resembles the "oneiroid" states described by Meduna (9), or the "organoid" schizophrenias ("amentia" – Meynert; Stransky), and the patient assumes a vague "otherworldly" quality. Again, some of these cases show features usually ascribed to the so called Ganser syndrome, with classical *Vorbeireden*, confabulation, and frequent, disorganized protests of innocence. In some cases auditory, and less frequently visual hallucinations occur.

The chronic cases present a stereotyped symptomatology. These are the individuals whose clinical state most closely approximates what might be termed a "prison psychosis". All of them show the passive obstructionism, the querulousness, the unremitting carping and chafing, the episodic overt agressivness, the varying degree of litigiousness classically ascribed to the "paranoid" variety of so called prison psychoses. What are not often mentioned, however, are other features which we consider more indicative of the real nature of the problem in these cases.

These are the prisoners, indeed, whose cause has in their own eyes assumed a cast of hopelessness. They have given up, despite their protests to the contrary, and their entire behavior reflects a rejection of basic responsibilities which even incarcerated men ordinarily asssume.

The pervasive depressiveness from which these men suffer is reflected in almost every detail of their behavior. They become slovenly, unkempt, but stop short of soiling; they become occupied with trifles and rituals; they may masturbate openly or endlessly; they cannot, or openly refuse to hold down approved work assignments. Their thought processes take on certain specific features; fixed ideas and obsessional preoccupations are foremost, later in some cases with overtones of grandeur and delusions of innocence or pardon; thus, a man may day after day insist that he needs an enema, or that he must be transferred elsewhere, or else that his cause is being investigated by a senator or another high official. Coupled with all this is a pronounced aspontaneity, such that almost everything, including letters requesting pardon, is performed with a profound desultoriness and slowness.

Of considerable significance is the absence of more extreme symptoms in these cases. Frank hallucinations are rare; the delusions and fixed notions are rarely extreme nor are they extremely bizarre; the affect is not classically flattened, indeed may be pseudojovial, and frank incongruity with ideation is not readily noted. Indeed, many of these men are stigmatized as malingerers, and they themselves deny that they are mentally ill.

In all of these cases, whether acute or chronic, we perceive a common denominator as significant, underlying depression; admixed with the depression are hostile, aggressive, manipulative drives that are diffusely and transparently expressed. Of considerable significance is the assumed metamorphosis of men with florid prior

histories of aggressive antisociality into one of these types. In such cases, error in prior diagnosis (usually of "psychopathic personality") is assumed; the psychiatrist has "missed" or "overlooked" the "real" underlying or latent schizophrenia. In point of fact, we view these changes in terms of significant alterations in the opportunity or capacity for aggressive drives to reach the stage of consistent motility. The polygot "stresses" of confinement in time render further active contest fruitless; it then transpires that the aggression no longer finds or defines external objects; the hostility is reverted inward onto the introjected object; the ego boundaries become partly effaced; depersonalization and estrangement make their appearance; the patient becomes progressively alienated, progressively ineffectual in his capacity to mobilize and outwardly direct his hostility; he becomes diffuse, listless, desultory, passive–manipulative, finally regressed. In these cases, extreme withdrawal (catatonic states) are rare; similarly, pronounced depressions with perceptual distortions are infrequent. We conclude that part of the basis for this is, again, the rigid institutional structure and the fact that external objects of aggression are never totally disregraded or unavailable. Thus the "fight" goes on, but it is attenuated and the symptoms of the condition become "mixed".

Of great significance in these chronic cases is the remarkable thoroughness with which they clear if and when release becomes a genuine possibility, which points up the reversibility of the symptomatology and the absence of "deterioration", with re–emergence of the prior, more active efforts at mastery of the environment. In a rare few, however, the inroads of the illness are progressively disorganizing, and the "endpoint" is a state of profound deterioration with a final condition of frank psychotic decompensation.

CONCLUSION

In this paper we have taken our departure from considerations of the aggressive drives, and from the means and opportunities through which they may gain access to motility. Some of the more immediate aspects of the phenomenology of psychiatric illness among sentenced social offenders may be understood in these terms. What has impressed us most are the evident dynamic links between early affective deprivation (frustration), and the retaliatory, socially unacceptable attempts at mastery that spring from it (aggression).

It is worthy of note that the specificity and the characteristics of expressed aggression are as significantly shaped by the features of the enviornment against which the aggression is directed as they are by the intrapsychic factors that serve as their biologic loci. In prison institutions, the nature and availablity of aggressive objects are seen to be critical factors in determining the alignment of defensive maneuvers by the ego which in turn condition the diagnosis given in each case, and the relative distribution of the diagnoses made.

A final consideration is the rather stereotyped, chronic syndrome which we have chosen to label as a more typical "psychosis" of prisoners. The syndrome contains elements of classical schizophrenic thought disorder, pervasive depression, and passive-aggressive manipulativeness. It effectively resists the known therapeutic modalities, yet so often clears when the oppression of continued punitive incarceration is lifted. Our experience with the "non-classical" features of this reaction underscores the need for further research into it. More specifically, we need to know more about the dynamic effects of punitive incarceration, the relationship among depression, punishment, the occurrence of classical schizophrenic thought disorder (primary symptoms), and the role of the milieu as they apply in these atypical "mixed" psychotic conditions.

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EXAMINING THE OFFENDER: SOME PROCEDURES AND PECULIARITIES

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Experience in examining offenders referred to the Medical Office serving the criminal courts of a large city has made the writer aware of some peculiarities involved in interviewing these people, and has raised questions meriting consideration. Interviews for the purpose of making a report to a referring judge to help in disposition of a case differ significantly from consultations sought voluntarily by patients in hospital clinics or psychiatrists' offices. For instance, most of the court examinations are not requested by the offender, who may see little point to the examination, but are ordered by the judge concerned, on his own initiative or in consequence of representations from the defendant's attorney or relatives, or the State's Attorney's Office. One wonders then, in view of the coercive aspect and common initial reactions of suspicion, anxiety, or feeling insulted on the part of prisoners, why it is that most offenders talk frankly, often at length and to their possible disadvantage, to a complete stranger, the psychiatrist.

The legal context, so different from the usual therapeutic settings, has considerable effect on the psychiatrist. He needs to switch roles from the usual one of healer, of being someone's doctor, to being an agent of the court, an objective collector of data; to aid the court in understanding the offender, whether the data be to the offender's advantage or disadvantage. In registering, assimilating, and evaluating the facts about the patient for purposes of organizing a report for the man who will judge and sentence him, it is difficult to avoid being drawn into the partisan situation—the prisoner against society in its punitive aspect as embodied in the prosecutor and the sentencing judge. The psychiatrist, in preserving a balance between what he considers the interests of society and the interests of the prisoner, may be involved in conflict himself.

There is a possibility of identifying with the prisoner, his personality or his offense, and becoming his defender. Or again, on the basis of identification but this time repudiated, the doctor may become punitive: a prosecutor or punitive judge. The prisoner's vulnerable state may serve as instigation to the doctor's power drives, or the aggression pervading the court situation may mobilize sadism. Many more or less unconscious fantasies may be evoked by offenders and tend to influence the examiner's judgment.

These potential difficulties and others raise the question of what administrative organization and what psychiatric procedures produce valid psychiatric data for use of judges in dealing with offenders in whom there are psychiatric problems, and, at the same time deal fairly with the offender. Further review of these problems is best preceded by an outline of the setting in which the writer works and in which the questions have occurred to him.

Patients seen are those referred to the Medical Service of the Supreme Bench of Baltimore. The cases come from the Criminal Courts, the Domestic Relations Division, and, to a lesser extent, from the Probation Department. The psychiatrists provide a consultation service for psychiatric emergencies in the Baltimore City Jail. Patients are examined by the clinic psychologists routinely as well as by the psychiatrists, and a social service work-up is completed when necessary. Data are received from relatives, lawyers, arresting officers, or other agencies having useful prior knowledge of the offender. Special examinations such as electroencephalograms or interviewing under intravenous barbiturates are carried out on rare

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occasions. The office is an agency of the Supreme Bench and is directly responsible to the judges. It is not an agency of the prosecutors (the State's Attorney's Office). This non-partisan administrative status plays an important role in minimizing some of the potential troubles noted above.

Patients are referred by order of the judge having jurisdiction of the case. Prosecutors, defending attorneys, or offenders cannot effect referral directly but only by approaching the judge, who, if he considers examination appropriate, orders it. Offenders are seen prior to trial, after trial but prior to sentence, and occasionally when difficulties arise on probation. Offenders on bail or probation are seen at the Medical Office in the Court House, those in jail are interviewed in rooms set up specifically for this purpose in a corridor adjacent to the jail hospital, away from the cells. Privacy is assured, and there are no guards about without the request of the examiner. This is considered necessary on rare occasions as, for example, when interviewing a dangerously assaultive paranoid schizophrenic.

In trying to establish a satisfactory working relationship with the offender, the writer usually proceeds as follows. The patient is greeted by name when brought to the elevator from the cells. No more is said (other than indicating the way to go) until the interviewing room is reached. This enables each to get some impression of the other, without needing to engage directly. On sitting down, after one or two casual remarks to let the patient get a further impression of the psychiatrist, the latter introduces himself, naming the office he 's from and initiating the interview.

As a rule the writer states that the judge or the court has asked him to come and see the offender, so he guesses the judge must think something is wrong and wants to know more about it. If the patient appears more sophisticated, the statement is that he imagines the judge must think there is some medical or psychological problem involved and wants to understand it better. This is followed, at times disingenuously, by an observation that the doctor doesn't know much about the situation, but he has been told to come and see the patient and could the latter make it clearer to him? These moves are made in an attempt to dissociate the examiner from the authoritarian coercive aspect, while not deceiving the offender as to the doctor's status. It is thought that by putting oneself in the same boat as the offender, that is, both parties being brought together by the power of the court, there is more likelihood of productive interviewing.

These overtures are often unnecessary, the patient welcoming the examination and opening on his own initiative. Whether the examination develops spontaneously or needs more or less artful teasing to produce data, the interviewer tries to develop it along spontaneous lines, concluding by covering matters not raised spontaneously to include the usual elements of a psychiatric examination and references to past and present offenses, if the offender will discuss them. No attempt is made to coerce him into talking about his offenses if he is reluctant.

It is important to get clear, as early as possible, how the patient views the examiner and the examination, particularly if he seems afraid or angry. Several patients have been afraid and uncommunicative because they believed the doctor was there to "put them away" in the state hospital. When such a fear was made explicit, and the doctor stated frankly that as yet he had no reason to believe this to be necessary, work could go on. Several prisoners have been more offended than frightened, believing themselves to be considered "crazy". This too can be resolved with matter-of-fact discussion. One or two patients have been angry because they believed wives or parents had sent the doctor and saw the latter as the tool of their relatives.

Refusal to be interviewed is a rarity. A fifteen year old mentally defective sociopath was referred because he was unmanageable,

assaultive; sadistic, and considered homicidal at a local training school for boys. He met all attempts to talk with sneering denials of any troubles and by reiterating "ain't nuttin' wrong with me". A severely mentally defective, thirty–two year old woman was referred for assessment of her capacity to function as the complaining witness in a rape case. Throughout the interview she responded by apprehensively muttering that she wanted to go home and could be contacted only fleetingly, but enough to be sure she could not function as a witness. A twenty–eight year old sociopath of borderline intelligence, charged with the rape of his crippled sister, gave virtually no personal data at all, manifested suspicion, anger and contempt, and used the interview as a vehicle for an angry tirade against his relatives who, he stated, had framed him.

A negative attitude to the examination is generally shown more subtly, in maintaining a guarded emotional remoteness from the examiner, by evasiveness, as in the use of vague generalities or clichés. Relationships and people are "fine", "all right", "o.k.", "wonderful", "I couldn't wish for a better mother". It is hard to assess the meaning of such words, but limited education, intelligence, an inability to conceptualize and verbalize interpersonal and emotional data, and anxious or hostile evasion are among the possibilities.

Most offenders are communicative about themselves and one wonders why. Why should a man on trial for or recently convicted of a serious offense, to whom the psychiatric examination and report is possibly to be of no value and may, for all he knows, be unfavorable to his interests, be willing to reveal intimate matters? Reflecting on a number of cases seen the writer considers the following to be among the motivations.

THE NEED FOR AN APPRECIATIVE RESPONSE.

A need for an appreciative response of respectful interest is considered by Whitehorn (5) to be a basic force activating a person in the psychiatric interview. In his paper on interviewing and clinical personality evaluation he states: "The most general and reliable incentive for the patient's participation in interviews is the desire for understanding and an appreciative response." The writer believes this need motivated the following two patients.

A twenty–two year old, white, "neurotic" sociopath was examined following his arrest for false pretense—he was financing a trip from North Carolina to New York City by passing bad checks. During the examination, from which he did not appear to feel he had anything realistic to gain, he was very informative and frank. "I'm not the criminal type. I'm highstrung and jittery. I show a lack of responsibility. I have an attitude of superiority which I don't mean to have. It comes from a little inferiority complex I have and have had. It's smaller now. I'm a faker. I talk a lot. I blow, I brag, I have a vivid imagination. I have a good enough intelligence to carry it off. It's dropped off here. (meaning in the interview situation) I think it's based on an inferiority complex." When asked about his sexual life, he became uneasy, really unsure of himself for the first time in the interview. He shamefacedly confessed he had never had sexual intercourse, adding he felt ill at ease about it as he understood such lack of experience was unusual these days. He asked himself aloud why he was telling the examiner about this and other sexual matters, adding that he had never spoken to anyone of this part of his life before. It seemed likely that this narcissistic boy, who tended to aggrandize himself as he talked, was speaking openly in response to a need for understanding and respect for him as a whole, problems and all.

A thirty–three year old shoe salesman charged with sodomy was found to be a chronic undifferentiated schizophrenic in remission and to have a life–long history of homosexuality—he called himself "a total homosexual". He spoke at length and

with candor about the important things in his life. His psychosis, which had kept him a year in a state hospital, was largely in remission, although he wondered about possible "hypnotic" influence at present. He appeared to be a lonely, isolated person ineffectually seeking a sense of belonging and relatedness to others. He enjoyed being the passive partner in anal sexual relations. He did not feel he was "insane" at the time of his arrest or at the time of the examination. He did not feel he wanted treatment for his schizophrenic illness, which he clearly recognized, or for his homosexuality. He felt the best solution was to serve a sentence and then go to another city hoping to find a homosexual associate with whom he could share an apartment, and more. He spoke at length with sincerity and, although he knew the examiner's report might have an important bearing on the disposition of his case, he made no attempt to influence or manipulate the examiner. Apparently a need for an appreciative and understanding response motivated him, although it is recognized that his passive femine sexual orientation would lead him to compliance.

A NEED TO IMPRESS.

Some offenders are keenly interested in using the interview to impress the examiner with their sterling qualities. This behavior could be termed "haloing". Frightened by their situation and the prospect of sentencing, they accent their assets and minimize their liabilities to influence the examiner and through him the judge. Others, usually sociopaths of the impostor variety, use the examination to spin a web of grandiose fantasies. The offenses are passed off lightly as too trivial to mention, or for which they merit sympathy more than punishment, and they pass on to a review of glittering successes, attributes, and virtues. They assume a "we two" relationship with the examiner and may manifest contempt for the other prisoners. The reality of detection, arrest, and imprisonment probably activates the feelings associated with their devalued egos and increases the defensive need for the preposterous grandiose fantasies.

An obese forty–nine year old fruit vendor, a pregenital character with pronounced oral and anal traits, was convicted of receiving stolen goods brought to him by several adolescents who had worked at his fruit stall. Examination was requested to see if he was a "Fagin" organizing the boys in criminal activities. He was not, but spent the interview trying to impress the examiner with how solid a citizen he was. He spoke of his excellence as a produce vendor, his cleanliness, politeness, generosity, good relations with the police, his devotion to his mother, unfortunately deceased, and to his lady friend of fourteen years standing, "a very refined type", as he put it. He attributed his involvement in the offense to an old habit of lending the boys money on articles that they brought and to carelessness in failing to check what they had brought him this time. He appeared frightened by the possibility of penal incarceration and bent on impressing the examiner with his worthwhile qualities and demonstrating how out of character any criminal activity was with his personality.

A forty–two year old Negro woman was interviewed after being found guilty of selling heroin. She appeared to have a severe character disorder, probably best considered as a sociopathic disorder of impostor type. She was well known in the local Negro community, having been active in public affairs. She was a poised and loquacious woman, unruffled apart from irritation when asked about the offense. She used the interview to put herself in an angelic light, in terms reminiscent of a religious tract. She said, "Why is it I can't be rude and nasty and ornery as others I see? The Christ in me which I serve just won't let me be that type." "There's one bad thing about me. I have a tendency to be kind. I'm a lover of dogs and people in general." She loved helping people. "It

gives me a joy that can't be purchased with dollars and cents." "I love the sick room. I bring sunshine and leave sunshine when I leave." In describing her mother, she said mother was "very much like myself, a pleasant person, loved by many, both white and colored for her pleasantness." The interview went on in much the same vein throughout, the patient describing herself as highly intelligent, industrious, charitable, generous, and kind, devoted to her faith and devoid of rancor. She explained her arrest and conviction as a miscarriage of a charitable act. The money the man paid her was not for heroin but was to repay a loan she had made his relatives at a time she could ill afford to lend money.

An obese, twenty–five year old "neurotic" sociopath was convicted of carrying a deadly weapon and of false pretense. He had written a number of bad checks and was found carrying two automatic pistols in his car at the time of his arrest. During the examination he continually presented himself as scholarly, brilliant, profoundly religious, and deeply interested in the welfare of the community. His manner was gracious, at times grandiose and condescending. He spoke in a curiously involved and precious fashion, probably to demonstrate his intelligence and cultivation. "I don't like physical violence in the form of fisticuffs." His religion was "very, very important to me. My prayers in the morning and the evening are a great comfort to me." "I love church work." He read "classics". At times he would read novels, "the better grade of book, not trash". He had read some of Erle Stanley Gardner, and "I deem him acceptable". To the psychologist he admitted an interest in Catholic metaphysics. The psychologist, who happened to know something about it, asked him a few questions about the philosophy of Thomas Aquinas, and the patient floundered badly. However, he rallied enough at the end of the psychological testing to ask the examiner to send him a French version of *The Count of Monte Cristo*. On parting with the psychiatrist he asked if the latter would be good enough to send a work dealing with the theory of relativity. The patient said his last job had been running a mortgage and investment company, a venture which failed, after which he wrote the bad checks. He had had no real financial training. He called himself an accountant. When asked if he were a C.P.A., he said he was not but had learned accounting from his father. "It's just logic", he said airily. Much was made of self education and several brief courses taken while in the Air Force. He would like to be tested and to get "credit rating for my knowledge and to get a college degree". "I feel quite sure I could take it and get it and skip the four years." Beneath the posing it appeared likely that this fat and anxious young man felt stupid, inept, unattractive and worthless. His pretentiousness and reporting of skills and qualities he did not possess appeared to be a series of attempts to defend himself against the painfulness of his debased ego, perhaps in similar fashion to Deutsch's case (2). In her paper, The Impostor, Dr. Deutsch reports: "The pathological impostor endeavors to eliminate the friction between his pathologically exaggerated ego ideal and the other, devaluated, inferior, guilt—laden part of his ego, in a manner which is characteristic for him: he behaves as if his ego ideal were identical with himself; and he expects everyone else to acknowlege this status. If the inner voice of his devaluated ego on the one hand, and the reactions of the outside world on the other hand, remind him of the unreality of his ego ideal, he still clings to this narcissistic position. He desperately tries, through pretending and under cover of someone else's name, to maintain his ego ideal, to force it upon the world, so to speak."

Although this man did not assume someone else's name, he did claim skills and learning he did not possess. In passing himself off as a scholar, a financier, an

accountant, and a devoutly religious person, he was an impostor.

AN INFANTILE PLEA FOR HELP.

Infantile personalities who offend may use the interview to relate to the examiner as to a kind and omnipotent parent who is to alter the reality of their legal status, presumably by magic, and to relieve them of the consequences of their offense.

A sixteen year old, white boy with a history of relatively minor delinquency was jailed after breaking into a grocery store with his more aggressive and capable younger brother. An excerpt from the mental status part of the examiner's report indicates his behavior in the examination, in which he importuned the examiner to get him out of jail and into a hospital. "They told my mother I wouldn't have to come behind no bars, that I would have to come to a hospital for a couple of days. Them bars, every time I look at them or think about them, I just want to get out, that's all. I can't stand them bars, I just don't like it, I never want to go back. All you see is them bars looking you in the face. I feel like throwing everything, trying to tear them down." The boy was disheveled, restless, and anxious. He wept repeatedly throughout the interview, his manner being grossly unhappy and self-pitying. Between bouts of weeping, he was fairly cooperative and talked in a small, piping, childish voice with a plaintive, self-pitying overtone. His manner was civil, and he assumed a dependent, pleading manner with the examiner. This did not appear to be consciously contrived, but a natural one for him in a frightening situation.

A NEED FOR SYMPTOMATIC RELIEF

Some offenders suffer from the usual psychiatric syndromes with their distressing symptoms and may be eager to cooperate, with hope of getting relief. Manifest anxiety or depression may lead a patient to willing participation with the examiner, who is seen here as a therapist.

A seventeen year old white youth, in jail on his second charge of automobile larceny, was markedly anxious. His skin was pale and moist, there was a rapid tremor of the fingers, his pupils were dilated, and he moved restlessly throughout the examination. He had been in the jail hospital several days, being brought from the cells in near panic. As he put it, "my nerves are bad ever since I can remember. I get shakes all the time." Things were worse after his step-father died eight weeks previously. "I got so bad I couldn't hardly breathe." Incarceration and the prospect of a further reformatory term increased his anxiety. He seemed to be doing his best to communicate with the doctor and appeared motivated by a wish to get relief from the anxiety, of which there was ample evidence.

A fifty-four year old steel worker was referred in connection with his failure to keep up payments in support of his estranged wife. He appeared tired, tense, harassed, worried, and depressed. Anxiety and depression produced many symptoms. "I do a lot of sweating. I black out." "My heart starts beating like a bass drum." "I go right to pieces. I'm not supposed to be out by myself." "It's taken everything out of my system." He worried constantly and felt so badly at times that he would not care if he died. This simple man spoke freely and frankly about himself in an eager and dependent way. The writer believed he was motivated by great concern about his sickness and by hope of relief.

A NEED TO MASTER AN UNCONTROLLABLE ANTISOCIAL PATTERN

A need to repeat the same antisocial pattern leads to repeated incarceration for some offenders and to their seeking consultation. Repetitive sexual, acquisitive, or assaultive acts occur as the offender acts out his instinctive drives and infantile fantasies. As he becomes more aware of

his inability to control these tendencies and of the ruinous consequences for himself and others, an offender may actively seek psychiatric help. Neurotic criminals of this kind are well described by Alexander (1). Freud (3) describes two groups of people who may become recidivists. The first are a group he calls the "Exceptions", who emerge from childhood with a sense of having sustained an unjust injury in childhood, this entitling them to privilege and a justified sense of rebellion. The second group are criminals from a sense of guilt. "The analytic work then afforded the surprising conclusion that such deeds are done precisely *because* they are forbidden, and because by carrying them out the doer enjoys a sense of mental relief. He suffered from an oppressive feeling of guilt, of which he did not know the origin, and after he had committed a misdeed the oppression was mitigated. The sense of guilt was at least in some way accounted for.

Paradoxical as it may sound, I must maintain that the sense of guilt was present prior to the transgression, that it did not arise from this, but contrariwise—the transgression from the sense of guilt. These persons we might justifiably describe as criminals from a sense of guilt."

Guttmacher has noted a group whose acting out and subsequent incarceration appears to stem from dependent, irresponsible trends. These people appear unable to tolerate the tensions of community living and act out, seeking arrest in order to surrender responsibility because of magical expectations of help from authorities, including medical ones.

The following patient sought consultation for help with a grave antisocial pattern. A twenty–nine year old Negro man, functioning at a neurotic level but basically a psychotic personality, was seen following his fourth arrest for breaking and entering. Since the age of sixteen most of his life had been spent in jail. His offenses had been similar. He would break into a house when intoxicated, always through a back window. He would steal some trivial article. On the last occasion he had encountered a woman in the house, exhibited his penis, and beaten her savagely. The same night he tried to break into another house and was arrested. He felt defeated by his behavior and wanted to change, saying he realized he was hurting himself and others. "I'm killing my family. I worry about that a lot, and I know I keep on doing it." He felt convinced that unless he had treatment before he was released again he would repeat his offense inevitably.

A NEED FOR CONFESSION

Offenders may be troubled by guilt and, in an effort to placate their superegos, may repeat their offenses verbally in the interview situation, often in harrowing detail. While there may be hostile or sadistic satisfactions underlying this behavior, the observable phenomena indicate marked guilt, a tendency to self punishment, depression often accompanied by weeping of a moving quality.

A thirty–four year old Negro bakery worker was convicted of first degree murder after he shot two men in a fracas at a dance, killing one. He had no prior record and from several sources was reported to be a good natured and friendly man, steadily employed and liked by his landlord and supervisor at work. He was a pleasant mannered, simple man of borderline intelligence, subdued and cooperative. He seemed both anxious and depressed, partly in reaction to his real situation—he had been sentenced to death—and partly from guilt about the killing. He was sleeping poorly and when asked about sleep said he was "thinking about this trouble, how did I get in this trouble, everything was going so good. I never want to harm anybody, take anyone's life. I know I can't bring him back. I'm praying for him and for the one I have injured everyday." At this stage the patient broke down and wept uncontrollably. Later

he went over details of the offense with distress. The patient's sentence was commuted subsequently by the governor.

AGGRESSIVE AND COMPETITIVE NEEDS

Occasional adolescent offenders seem motivated by bravado and wishes to mock, defy, outsmart, defeat, and thwart the examiner. At the same time they tend to be boastful and exhibitionistic, covertly enjoying the experience and producing much data while implementing their needs.

A twenty year old, unemployed white user of narcotics was examined after his second conviction. He had forged a prescription for pantopon and was arrested attempting to have it filled. Seven months previously he had been released from an Army detention barracks after serving a year for having marijuana in his possession. His behavior was characterized by cold smiling and mirthless laughter at times when he said things he believed would outrage or disturb the examiner. There was nothing wrong with him; society was wrong about narcotics. "I think the law is simple." Life was a "bore", and there was no point to doing anything but "shoot dope". Working was unnecessary; he could get along on minor confidence tricks or by robbing women he meets. He professed interest in girls or women not as people but "I like 'em as a sex". He likes to "mess around" with girls, "go up to them, bullshit with them, steal their money". He then described, with bravado, a wide variety of sexual activities and interests. People are no good; he feels only anger or irritation for them because they keep "bugging" him. He became overtly angry with the examiner, saying "I don't want to talk to you people" and went on to say he just wanted to be left alone, serve his time, then "pull a big job", *i.e.* rob a bank, and wreak his revenge on the two associates who "ratted" on him.

Along with the series of challenges to conventional values couched in mocking, sneering tones, he gave a lot of personal data suggesting underlying anxiety and internal conflict. It appeared that much of what he said was essentially whistling in the dark and a consequence of his own struggle with his superego. This impression was borne out by his entirely cooperative behavior in the jail and by a much more conventional and less defiant way of relating to the psychologist who saw him several days later. It appeared then that the dominant forces motivating him in the interview with the psychiatrist were needs to rebel, challenge, defy, mock, and outrage.

MASOCHISTIC NEEDS

Occasionally persons use the examination to feel or display pain. Some may do this through guilt and with suffering; others do so with relish, positively wallowing in a masochistic exhibition.

A twenty-nine year old man was seen after a conviction for assault to rob. He had entered a liquor store pretending to have a gun in his coat pocket. The proprietor knocked him down, and he was found to be unarmed. The patient said he had made a sucidal attempt. He knew the man had a gun and hoped he would be shot. There had been several unsuccessful suicidal attempts in the past. He had not worked, except in jail, for the past ten years, since separation from his wife. "I told her I would never work no more, and I haven't worked since." There had been several clumsy forgeries and two burglaries, the patient being caught each time. He was a tense, distant, quietly hostile, yet civil man, composed for the most part. He spoke with bitterness of his relatives and wept when talking of his mother and her death. One felt his life to be a bleak, sad, lonely, and hopeless one. He appeared to experience "mental pain" during the examination. Speculatively one felt that guilt about his intense hostility led to this self-punishing behavior and to a pattern of repetitive criminality in which he always got caught

and punished. These excerpts of the interview may give something of the quality noted: "I don't care how much time I get. No one cares for me outside. I just wish I could drop dead, no interest. That's why I done what I done. I had no gun. I figured the man had a gun. I told him to go ahead and shoot me. For the last ten years I never cared about being outside. I ain't got nothing out there. I didn't have to do this." "There's nothing. I don't care about nothing. As far as life, this life is nothing. I have lived long enough. If they could give me the gas chamber for what I've done now, they'd probably see the calmest person walk in it." He said he was "just disgusted, not exactly unhappy, nothing ahead of me, nothing in back of me that makes me want to look for anything else".

In striking contrast was a forty–three year old white woman, separated from her husband. She was referred because of unreasonable stubbornness about making an equitable financial arrangement with her husband and because of her lurid accounts of their prior sexual life. She spoke with enjoyment of her early family relations, her gynecological and obstetrical history, and her husband's alleged sexual brutality. Her mother was said to have taught her to hate and to fear her father. Her mother's discipline was savage—after an episode of trivial disobedience at age eleven the patient was knocked down by mother who stomped on her; "You had to obey or get your guts kicked out". The medical record was colorful. Her husband was said to have forced a fresh sausage into her vagina, and this led to trouble. The gynecologist who took care of her at the time, "took a part of my womb off, the top skin, to analyze it for cancer or something". "I had almost like a Caesarean birth for the third baby. All my babies come wrong after he started using those instruments on me." One baby was born at home feet first and strangled by the cord while the patient was alone in a furnished room, her husband being out "supposedly getting a doctor". In another delivery the doctors "had to operate down below, I wouldn't sign for a Caesarean. He was coming backside first, his feet over his shoulders". The next child was born face first at home, the patient having chosen to have the baby at home. "I thought maybe a home baby was easier to have. I was so cut up and butchered after having Bill." Concerning her marriage, the patient said, "he did too many horrible things, he ruined my body completely, he sent me to hospital". She went on to say spontaneously that her husband insisted on having anal sexual relations with her when she was menstruating and used "all kinds of instruments on me. He inflamed my womb, he wanted sexual intercourse all night." She referred repeatedly to her husband using "instruments" on her but was vague as to the nature of the instruments. "It just felt like my guts and all was going to fall out on the shop floor." "It felt like a sharp knife running through my stomach." Not only were instruments used but bottles, wax candles, hot dogs and sausages. These astonishing revelations were made with evident pleasure, and with other similar themes made up the bulk of the interview.

NEED FOR SELF JUSTIFICATION

This need is prominent in persons who feel unfairly treated, particularly if they believe their side of the case has not been stated fully. It is often seen in non–support cases where the men have been jailed or threatened with jail for failure to meet their payments. They believe their wives, to whom they are invariably resentful, have the ear of the probation department and the court, and they believe their side is not fairly considered. These men are often passive–aggressive personalities and may not defend themselves vigorously. Their aggression is expressed in not making payments to their wives, and they will prefer at times to go to jail rather than make the payments. Such patients use the ex-

amination to express great resentment about their situation and spend much time justifying their behavior.

A fifty year old electrician was charged with non-support and referred to assess his capacity to work. This had been impaired by a moderately severe psychoneurotic depression. In addition to using the interview to discuss his illness, he used it for resentful self justification. Much bitterness appeared towards his wife, and he gave a lengthy account of her failings in the marriage. Resentment of his present legal situation was expressed. "Nobody seems to realize that builds up a feeling inside of me. I get disgusted going to work." He resented making money and having to pay it to his wife, feeling ill-used by her and believing she did not use the money to best advantage for their child. He went on to describe his personality, saying that he may be considered somewhat unreasonable at times but he considers he is fair minded. "I like a sense of fairness and before I do anything myself I ask myself is it fair. That's why I take this thing so hard. I can't see the fairness." He said he should make some sacrifices in order to keep up his payments but thinks his wife should sacrifice a little too. He resented being put in the wrong in the situation, saying that she was equally wrong in breaking up the marriage by constant nagging and other provocations.

Other persons prone to the use of projective defense seize upon the interview to justify themselves and project blame onto others.

A thirty year old house painter had been found guilty of several charges of burglary. His behavior in the interview varied. At times he was ingratiating, at others resentful, bellicose, self pitying, and threatening. He complained bitterly about the jail food, the Deputy Warden of the jail, the State Welfare Department, his lawyer, and the State of Maryland. There was a massive use of projective defense, his predicament being seen as a "bad break", one which would occur only in a state failing to appreciate a man of his worth. Concerning his family's present situation, he said, "the way this state is treating them is lousy, and I'm going to do something about it. I just don't think they're being treated right, and I will give it to the newspaper, and I want it printed." His medical history was noteworthy for "a little nervous condition" which had led to discharge from the service after five months. This condition was described by the patient as "more or less battle fatigue" sustained while at camp in the United States. Things had been worse recently. "It was the Deputy Warden's fault." The Deputy Warden's offense was that he routinely asked the patient to sign permission for treatment for the hospital to which his wife had just been admitted to have a baby. The patient's occupational record was poor, this presenting a grave problem in that he was the father of eight children. Again this was somehow not his responsibility. "All I need is a decent break in life. If I had that I could straighten myself out, and I wouldn't get into any more trouble. I've got obligations to meet. I've got to support my wife and children, and I can't do it in here." The patient felt that he had not had a "break" in the State of Maryland and announced that when he was released he was going to leave this state and go to one "where they appreciate a man".

A NEED TO CONTRIVE A DEFENSE

A few offenders appear to be consciously trying to use the interview to present their case in the most favorable light, in a fashion differing from the need to impress the examiner noted previously. Those patients do not appear to be carrying out a voluntary contrived performance. The offenders here considered are consciously and deceitfully presenting an account of themselves at variance with the reality they know. These performances are often clumsy, the patient's

notion of what might please, impress, or hoodwink the examiner being incorrect. A distinctly hypocritical and sanctimonious air often pervades their behavior. In an unconvincing fashion they may affect sentiments they do not feel. Some show concern with what the examiner writes down and literally dictate a statement they believe will be to their advantage.

A big, fifteen year old Negro boy shot and killed a grocer in the course of an attempted robbery. He was seen prior to his trial and that of his two young accomplices. He said that he and one of the other boys remained outside while the third entered the store. He heard a shot and ran. He affected much regret and guilt. "In a way I figure I'm just as guilty for letting him have my gun." There appeared to be little doubt that the patient himself was the instigator of the robbery and was the actual murderer. He made much of his distress. "I feel bad. Only about that man. They say he had three children. My mother worries, she cry, make me feel bad. I was the cause of her not going to work no more. The lady say she could stay. She say she couldn't bear to face the woman after that." He said he found the murdered man's wife "pitiable" and spoke of his distress that the ambulance took so long coming. The boy had run away and doubled back to the scene of the crime as a spectator. The rest of the interview was spent in "haloing", the boy talking of his interest in education, religion, and participation in wholesome activities at the Police Boys' Club. Actually he had refused to attend school and had hung out continually with a gang of particularly vicious young hoodlums for months prior to this offense. His protestations of guilt and regret were entirely contrived and unconvincing. His story was aimed at defending himself and blaming another boy. His superficially polite, compliant behavior with the psychiatrist was in contrast with his behavior on the cells where he was reported to be arrogant and truculent. He was said to have made menacing statements as to what he might do to any other prisoner assigned to his cell.

A NEED TO MANIPULATE THE EXAMINER

Some patients see the examiner as having real power and at the end of the interview specifically request certain things of the examiner, often aggressively and persistently, perhaps as a reward for cooperating with the examiner.

A thirty–one year old ex–police officer, a severe chronic alcoholic, was jailed for non–support. His only interest in the examination was in persuading the examiner of the virtue of his plan to go south to work. He concluded the meeting by asking the examiner "off the record" when his case would be disposed of and by asking for permission to make a phone call. He minimized his severe alcoholism, his assaultive behavior to his mother, and was not able to face any personal problems. All he could do with the examination was to try repeatedly to enlist the doctor's support for his plan and to manipulate the doctor into persuading the judge to release him and permit him to leave the state.

A fifty–one year old clerk, the father of six children, was on probation for failing to properly care for and supervise his children. He was said to have been cruel to the smaller ones, continually interested in alleged fornications in his neighborhood, and endlessly calling the police to report vice. He had been placed on probation and forbidden to discipline the children physically. He was a pathetic little man, thin and poorly dressed, with a bombastic manner which rapidly deserted him as he lapsed into tears on occasion. He was a paranoid personality, full of aggression. Much time was spent impressing the doctor with the injustices he had suffered and the rightness of his behavior. He insistently demanded that the psychiatrist and the psychologist have his probation lifted. He was told carefully by both examiners that

we had no authority to do this but merely submitted a medical report to the court. He openly disbelieved us, saying we could and should lift his probation. He went home and told his wife that we had informed him that the officials had no right to restrain him from beating his children.

A NEED TO MALINGER

Malingering is a rare finding. A few patients appear to feel that their interests are best served by tricking the doctor into recommending commitment to a mental hospital. On occasion they feel that it would be in their interests to be declared insane at the time of the offense. The presumptions are that they hope to be found irresponsible and thereby to avoid a sentence, or they hope to be sent to the mental hospital where they expect to be released much more rapidly than they would be if handled by ordinary penal measures.

A white salesman of fifty–three was charged with forgery after passing some bad checks. He had four previous convictions for this offense. His manner was funereal, and his expression woebegone. He spoke as follows in an unconvincingly sad fashion. "I don't know how long I've been here. I've had the pain all through my head. I was wondering if you were the minister. I've been so mixed up. I've been praying for the last four days. I hear the whispering of hymns in the back of my head. I wanted somebody to talk to me about it. My eyes seem to be affected. I hear this singing in the back of my head. At times it stops. I've taken a couple of pills. I can't even think right. I can remember and then it goes away. I try to remember things. I seem to be in a complete daze. When I'm walking I don't seem to be able to. Well, would you say dizzy, just to be firm in my stepping is pretty hard. My heart, my heart will pound, then it seems to stop pounding. At times I feel like screaming. It's all I can do to hold myself in. And I seem to be afraid of everything, afraid of people, afraid of everything, afraid of somebody pushing me, hitting me, and I don't do anything, I just lay there. I seem to shake, I just seem to be so as if I was going to burst apart." When asked how long this condition had existed, the patient replied, "I don't know, sir, I couldn't tell you how long. I actually couldn't tell you, sir, I'm so glad when it's quiet and night comes and there's no noise. I remember drinking heavily, sir, and I was drinking wine. I was numbed throughout. I couldn't think, got a band clasping my head. The voices started, they haven't stopped. They still continue." Psychological testing was full of absurd responses and unequivocally supported the diagnosis of malingering. Concerning the offenses he claimed he takes one drink and remembers nothing thereafter, writing the bad checks in an amnesic irresponsible state. It was not clear what his hopes were. Perhaps he wished to be found not guilty because of insanity, hospitalized, and then released at an early date.

In addition to the above motivations it is possible that the following elements of the total situation may influence the offender and lead to a cooperative attitude to examination. The jail atmosphere is authoritarian, impersonal, and a man's identity tends to be submerged. The jail authorities are not interested in a man's feelings or thoughts but in his conformity and submission to the jail regulations. In jail people do as they are told. This tendency may generalize to the psychiatrist, the patient conforming to the latter's expectations, *i.e.* that the patient give information about himself.

Because of the jail atmosphere and the general attitude of those in authority there, offenders may be disarmed by the novelty of someone allied with authority being interested in what they feel and think.

When patients are interviewed after an offense it may be that the discharge of aggression in the offending behavior is

followed by a quiescent cooperative phase during which the offender is likely to be amenable.

The effects of the legal context should be considered further, particularly as they may distort a valid understanding of the offender.

EFFECTS ON THE OFFENDER

With the offender the imposed character of the examination and the fact that it is imposed by the court, with its punitive, authoritarian, and superego aspects, seem likely to mobilize aggression or the defenses against aggression. Reference has been made to frightened, angry, and resentful patients. Coldness, sulkiness, resentment, antagonism or frank anger are seen, at least initially. Defenses of emotional remoteness, evasive verbalizations despite superficial passive compliance have been noted earlier. It is surprising that these are not seen more frequently. After all, the offender is not talking to his own doctor and often, although not negativistic, he cannot see any point to the evaluation. Even if he wants a doctor he is not getting anyone of his own choice primarily interested in his welfare, but is being examined by an agent of the court. In dealing with the latter not only are matters of his health involved, but his freedom, punishment, and on rare occasions, his life. This association of the psychiatric examination with the disposition of his case, that is with matters of criminal responsibility, mitigating factors, probation or imprisonment, length of sentence, must have important distorting effects. One expects withholding of damaging data, distortion in the direction of socially acceptable versions of past events and some of the behavior alluded to in the section on motivations. It must be kept in mind that these distortions are added to the usual defensive operations seen in any initial psychiatric interview.

EFFECTS ON THE PSYCHIATRIST

The physician is employed by the court and answerable to the judges. His task is to provide information, understanding, and at times advice. His work is often the important factor in the disposition of a case. Is the offender "sane" or "insane"? Should he go to jail or to an institution for defective delinquents? Is he treatable? Would he be likely to repeat his offense if granted probation? These are everyday questions the doctor attempts to answer. In doing so his primary responsibility is to the court. The offender's welfare is a secondary consideration. There are times when the role of objective examiner and that of therapist may be in conflict.

In interviewing for therapeutic purposes the doctor notes and responds to therapeutic cues. His thoughts and procedures are dominated by what is relevant for the treatment and well being of the patient and his immediate family. In examining for the court these cues are still noted, but in addition the doctor must be sensitive to cues indicating potential future mischief to others. If there are indications that the offender is likely to be a hazard to others in the future, these bulk larger in the doctor's mind than questions of the patient's immediate therapeutic interests. This can be troublesome when there is conflict between these two facets of a case.

The psychiatrist's affiliation with the power and majesty of the court is important. He works with men endowed by society with great power; power to restrict liberty or to deprive a man of life. This affiliation may instigate grandiose fantasies of omnipotence. Through the power of the judge the doctor may wish to exert power on the offender, either power for good if he identifies positively with the offender or power to cause pain if the offender evokes his sadism or hostility.

The punitive superego aspect of the court's function, the power to punish, provides a

means of expression for sadism. If a doctor is sadistically oriented towards a prisoner a punitive report may result. The prisoner's helpless, vulnerable state may invite sadistic or sadomasochistic fantasies. A psychiatrist may recoil from his sadistic, hostile impulses and become indecisive in evaluating a case.

Identification with the prisoner must always be kept in mind, in that court psychiatrists may identify with offenders as with other patients and suffer serious errors in judgment on the basis of the identification. If it is positive the doctor may feel the patient must be legally irresponsible and should not be made to suffer for his actions. Or if the prisoner's personality, fantasies, or overt behavior make the doctor anxious or guilty because of the latter's unconscious identification with the offender, a harsh, punitive attitude may result. The psychiatrist in feeling hostility or disapproval may well be saying something about his own guilt stemming from similar anti-social impulses.

The clinical material seen by the court psychiatrist has as a marked characteristic the tendency to act out. These are people who do violent, destructive, predatory things or allow themselves primitive sexual satisfactions the doctor forbids himself. That these people do things rather than dream them or merely talk about them may have more impact on the examiner and produce more countertransference or counter-resistance than is usual. The libidinous or aggressive activities the offender has manifested may arouse the examiner's anxieties and activate problems concerning the latter's id and superego.

It is particularly important to recognize distortions on the basis of counter-transference in this work because there is not the opportunity to correct misperceptions as there is in a continuing therapeutic relationship. The offender is rarely examined more than once or twice. If there is a significant distortion in the doctor's evaluation of the offender's personality, the distortion may be passed on to the court with possible serious consequences for the prisoner.

Despite these difficulties, and the above problems are checked by the social data and by the psychological test data, psychiatric evaluation can be most helpful to judges, can save offenders from fruitless punishment, and can steer those with therapeutic potentialities to treatment facilities.

SUMMARY

1. An outline is given of some of the differences between psychiatric examination for court purposes and psychiatric examination for therapeutic purposes.

2. Reference is made to the administrative framework of a court clinic and to some procedures used in interviewing for the court.

3. Some motivations underlying offenders' participation in psychiatric interviews for court purposes are suggested. These include the need for an appreciative response, a need to impress, an infantile plea for help, a need for symptomatic relief, a need for help with an uncontrollable anti-social pattern, a need for confession, aggressive and competitive needs, masochistic needs, the need to contrive a defense, a need to manipulate the examiner, and a need to malinger.

4. Effects of the legal context on the offender and on the psychiatrist are considered from the point of view of possible distortions in the fact gathering process.

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RELATIONSHIPS IN THE MANIFEST CONTENT OF DREAMS OCCURRING ON THE SAME NIGHT

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It has recently been shown that dreaming occurs in association with periods of rapid, conjugate eye movements (2, 4), and that these movements appear to be specifically related to the visual imagery of the dream (4, 6). In a study of undisturbed sleep (5), the eye movement periods were observed to occur regularly throughout the night concomitantly with the lightest phases of a cyclic variation in depth of sleep as measured by the EEG. The cycle length averaged about 90 minutes and the mean duration of single eye movement periods was about 20 minutes. Thus, it can be seen that a typical night's sleep may have as many as 5 or 6 discrete periods of dreaming, accounting for about 20 per cent of the total sleep time.

When subjects are awakened during each of the 5 or more eye movement periods during the night, a like number of dream narratives is often obtained. This stands in marked contrast to the conclusion, arrived at by eliciting dream recall at the time of the morning awakening, that the number of dreams occurring on a single night ranges from none to one or two (1, 8). It is apparent, then, that the totality of our dream experience is inaccessible to morning recall, but may be obtained by awakening sleepers while each dream is in progress. The necessity of this procedure is emphasized by the observation that if awakenings followed the cessation of eye movement periods by as brief a time as a few minutes, the likelihood of recall dropped precipitously (4).

One of the first questions that arises in considering these findings is what sort of relationships, if any, exist between the multiple dreams occurring on the same night. If dreams possess, in addition to their manifest content, a latent content obtainable only by the method of association, as seems commonly accepted, such relationships could be exceedingly complex and difficult to ascertain. However, the first and simplest step is to consider the manifest content alone. During the course of earlier investigations, a number of multiple dream sequences were collected and these were re-examined in an effort to shed some light on this problem.

METHOD AND MATERIAL

Dream sequences from 38 nights of sleep distributed among 8 adult subjects were available for this study. Each sequence contained four to six individual dreams.

The technique by which eye movements were observed in sleeping subjects and dream recall elicited has been extensively discussed elsewhere (3, 5). Briefly, subjects had small silver disc electrodes attached near their eyes and on their scalp and then went to sleep in a quiet, dark room in the laboratory. Lead wires ran from the electrodes to apparatus in an adjacent room upon which electrical tracings of eye movements and brain waves were continuously recorded. Whenever rapid eye movements were observed and had continued for 10 to 15 minutes, a bell near the subject's bed was sounded. As soon as the subject was aware of being awake, he grasped the microphone of a tape recorder near the bed and dictated the content of his dream. Such an awakening did not invariably elicit a dream, but the overall incidence of recall, as has been reported (2), was about 80 per cent which was sufficient to give a complete multiple dream sequence on many nights.

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The recordings of the dreams were transcribed exactly as they had been dictated. No attempt was made to add to the material by asking for associations. The transcriptions of each of the 38 sequences were examined for the presence of relationships among individual dream narratives.

RESULTS

An individual dream was considered to bear a relationship to another dream when the content of both showed some point of similarity or continuity. This included such things as the appearance of identical or similar characters, plots, actions, environments, or emotions, and the occurrence of continuity in which a theme appearing in one dream seemed to undergo further development in the next.

In the 38 nights' sequences no single dream was ever exactly duplicated by another dream, nor were the dreams of a sequence ever perfectly continuous, one taking up just where the preceding had left off. For the most part, each dream seemed to be a self-contained drama relatively independent of the preceding or following dream.

Nonetheless, using the above criteria, the manifest content of nearly every dream exhibited some obvious relationship to one or more dreams occurring on the same night. In 7 of the 38 multiple dream sequences, *all* the dreams seemed to be united by a common theme, but in the majority of cases only contiguous dreams were obviously related. Accordingly, the first and second dreams in any given sequence might contain elements in common while the third and fourth dreams would have different points of similarity. Occasionally, three or even four dreams would share a connecting link. There was also considerable overlapping of relationships. For example, the second dream might be related to the first by one element and to the third and fourth by another, while the fourth and fifth dreams might have still another connecting link. The manifest content of a dream was only occasionally closely related to the manifest content of another dream when there were intervening dreams which did not share the relationship.

The individual items comprising the connecting links between dreams in the same sequence varied widely from single, seemingly trivial details, to occasions of similarity in plot in which many actions and environmental details were the same. A formal classification was not attempted, but several examples may give an idea of the range that was observed. In order to conserve space, most of the examples are exerpted from longer narratives.

1. (a) ". . . I went inside and started going up an escalator. I could see my wife up ahead of me, four or five steps. The place was just mobbed. Then we were going down a hallway and I couldn't get to her. There were cakes of ice in the center of the hallway and people just milling in and out, everyone carrying suitcases and things. Then we started up this next escalator and there was a girl standing beside me. She had a real shabby suitcase . . ."

(b) ". . . He was collecting big hunks of watermelon and I thought I'd get a job helping him, so I started picking them up and some of them looked more like pieces of ice than they did like watermelon . . ."

The presence of the ice appears somewhat incongruously in both dreams and serves to demonstrate one of the more trivial relations we have observed between the manifest content of sequential dreams. The apparent triviality of this relationship does not preclude a deeper and more important relationship on the level of the underlying dream thoughts.

2. (a) ". . . I was near a cherry orchard with lovely pink blossoms on the trees that looked sort of like pink pinwheels. Somewhere along the line I got the idea that I ought to hire out as a guide, give a sightseeing tour. So I got into my car and about that time along came a train across a bridge that was in the orchard. It went across the

bridge and all of a sudden I realized that I was parked on the tracks and the train was coming toward me. I gunned the engine and drove ahead just in time to let it miss me. Then I turned around and drove back toward the orchard. There was quite a crowd of people and I wondered how one went about selling a sightseeing tour . . ."

(b) ". . . Somebody met me in a car. I got into the car and it started down the hill. As we drove it seemed to become sort of a cliff with a lake on one side and the cliff rising up on the other. The street was terribly narrow. I was a bit worried at this point, but I thought that the driver ought to know enough to be able to stay on the road . . ."

(c) ". . . We (dreamer and his wife) walked out of the theater with two other people. They went and got in their car, but we kept on walking. I just happened to see our car at that point. It was in a mud puddle and I had to go around to the other side to get to the door. The door seemed stuck and I was just tugging at it when the bell went off."

The appearance of an automobile is the connecting link in these three dreams. There is also the common element of danger to the dreamer in the first two, the onrushing train in one and the dangerous cliff in the other.

3. (a) ". . . I went in (to a house on a hillside) and I had a feeling that I shouldn't be there or that it was somehow slightly naughty to be in there. Anyway, I was inside and I realized there was a gangster somewhere in the house. There was a third party in the room with us and we were listening to something going on outside the room. Suddenly we had to escape and we all . . . there were three of us, my wife and I and some man, I can't remember who he was but he seemed to belong . . . and we had to get away, so we jumped out the window. Then we got into the car and I yelled to this guy, for some reason, that I ought to drive. He didn't know how to drive our car, but there was something about him, like he was a movie hero or something, and he was taking over. He jumped behind the wheel and he went roaring up the hill. Someone shot at us out the window as we ran off . . ."

(b) "It started out with me telling somebody about a murderer. The murderer was supposed to be in this house. I was telling two detectives a rather lengthy story about this gruesome murder. The idea was to lock them up in this house with the murderer so they'd catch him. And my wife, or some woman who was somehow related to me, was supposed to leave. So she went outside and I locked them in. Just as I finished locking them in the house it occurred to me that this was a trick and the murderer was really this woman and she was having me lock the detectives in the house so she could get me. Just as I went running down the porch stairs this horrible knowledge dawned on me. I ran out into the yard and was kind of looking at the house. It was an old house that was up on a hill. The yard was kind of roundish. Suddenly she jumped out of the bushes and began running at me. She looked horrible. She was going to push me off the cliff—part of the hill was a cliff—or kill me somehow. Just before she got to me she changed into a tiger—a tigress. At that moment I woke up crying out."

There is a great deal of similarity between these two narratives. In both cases there is a house on a hill and the dreamer leaves the house under a cloud of danger. There is a gangster in the first and a murderer in the second. However, in the first dream the threat is apparently inside the house and the dreamer and his companions are able to get away. In the second dream however, there is a reversal and the danger, by a trick, is outside the house, and this time the dreamer does not escape in the dream, but must waken in terror.

SEQUENCES WITH ALL DREAMS INTERRELATED.

Of particular interst were the nights on which all the dreams were involved in a

single relationship. Such dream sequences seemed to be a self—contained whole in which the individual dreams either expressed permutations of one theme or maintained a rough, but recognizable continuity from dream to dream. In this last case, the content of one dream seemed to be a reaction to the content of the preceding dream, and the next a reaction to both of the preceding, and so on. Such relationships—of part to whole—were observed, as previously mentioned, on 7 of the 38 nights.

Several of these dream sequences will be cited in full. In preserving the connecting links of these dream sequences a certain amount of interpretive comment is necessary. However, it must be emphasized that these comments are not intended as definitive interpretations of even the most superficial meanings of these dreams. On the contrary, such comments are made to suggest why the authors felt that the individual dreams in these sequences could be considered, even on the level of their manifest content, as part of a coherent dream thought that was maintained throughout the night.

Series A

1. "We were swimming and doing a lot of things. Everybody was in bathing suits at the swimming pool and I seemed to be admiring my body all the time. In one of the sequences there was this race, and then the racing stopped, and I was swimming down toward the end of the pool. I must have swam it awfully fast, although kind of leisurely. I climbed out and there was some guy sitting there who I immediately disliked. He seemed to epitomize all the guys who make asses of themselves parading around in bathing suits who I grudgingly admit do look good in bathing suits, but who are so conscious of it. And he was oiling himself. Anyway, it seemed as though I was afraid that my friend—I can't remember, he is just blank . . . or even she, is just blank—was going to be attracted to this guy and not to myself. But for some reason I wasn't as afraid as I ought to have been. I seemed to have some sort of metamorphosis. I became just like a strong muscled Greek God. There was a lot of diving and once my bathing suit almost came off. It seemed like I was in a white bathing suit. Then it seemed like we were all waiting for a T.V. program that Miss X (a well known Hollywood actress) was to be on just before the bell went off."

2. "A and B (two prominent Hollywood entertainers) were lying on a bed in this room and I was apparently with them. The door suddenly opened and B . . . no A fired this gun, started firing his gun and the panels dropped out of the door and the whole door came crashing down. Then a half visible man started walking in and said, "I am Mr. Blank, I want the plans.' He walked over to A and put his hands around his neck and started to squeeze. It was odd because he was intangible, but it seemed as though A could feel him squeezing. We all started trying to squeeze him back and all of a sudden he became tangible or something, but anyway I started to hit him and I just knocked the hell out of him, the poor little fellow. And I remember standing there in kind of a triumph just as the bell rang."

3. "I dreamed I was coming into this room and I didn't have a key. I walked up to the building and Charles R. was standing there. The thing was, I was trying to climb in the window. Anyway, Charles was standing there by the door and he gave me some sandwiches. He said he had brought me over some sandwiches, two sandwiches. They were red—it looked like Canadian bacon and his were boiled ham. I couldn't understand why he gave me the worst sandwiches. Anyway, we went on into the room and it didn't look like the right place at all. It seemed to be some kind of party. I think it was at that point when I started thinking about how fast I could get out of the place if I had to. And there was something about nitroglycerine I don't quite remember. The

last thing was somebody started throwing a baseball."

4. "I was talking to my aunt about how you got in touch with the underground left over from World War II. She told me about a number of other undergrounds and we were just talking and wandering around the house and I played with my dog a little bit and so forth and she asked me about my work. Finally, it seemed like it was time to get dinner and I knew that my mother had been cooking when we started talking. We went down to the dining room and I asked my mother about the underground and just as I was waiting for her to tell us what the World War II underground was, I said, 'Don't you think we can settle the question.' and the bell went off."

5. "Uh, this dream had something to do with a lecture. It was something about economics. But anyway, I was sitting watching Professor Z. and he was lecturing in a queer way. All the students were sitting down at the front of the lecture hall behind a long table and Professor Z. was standing out in the middle of the room on one of the desks. All of a sudden this big argument broke out while he was talking and they were both going on at the same time—his lecture and the argument. Claude R. and somebody else were arguing about the danger of inflation or something like that, and all of a sudden I realized I was awake."

Comment: All the dreams in this sequence seem to express a general theme of conflict and violence. In dreams 1 and 2 of the series, an identical plot line is seen as the dreamer experiences a physical triumph over a male adversary. The triumph is associated with an abrupt metamorphosis in both cases. In the first dream, the dreamer becomes powerfully built "like a strong muscled Greek God", and in the second, Mr. Blank suddenly becomes tangible and accessible to the dreamer's blows. Although the theme is constant, the setting is quite different; in one a bedroom, in the other a swimming pool. Only in the second dream does the conflict erupt into actual physical violence.

Dream 3 finds the dreamer on the receiving end of his friend's hostility as he is given the "worst" sandwiches. He also dreams "something about nitroglycerine". This "something" and the ball thrown by "somebody" and the question of how fast he could get out if he had to would seem to signify that the dream was about to disintegrate into a more open expression of violence as the awakening occurred.

In dream 4, violence is displaced in time to World War II and the underground, but the dreamer's query, "Don't you think we can settle the question", seems to imply a concern over some present conflict.

In dream 5, the violence is again verbal and is attributed to others whom the dreamer is watching from a distance.

Thus, in this sequence, the theme of violence and conflict builds up into an actual physical outbreak in dream 2 and is then seemingly contained verbally in the last two dreams after being allowed abortive expression in dream 3.

Other interrelationships might be noted. The dreamer speaks of movie stars in both dream 1 and 2. Food is mentioned in both dreams 3 and 4. Except for the 4th dream, all the prominent characters are male.

Series B

1. "I was dreaming something about a woman. The last scene was something about some kind of involvement where she's trying to do something about an inheritance and I'm trying to thwart her. I must have thwarted her pretty well, but she still has something she can do, and I'm saying—we're in some kind of a dining room—'Let me see your trump card. Let me just look at you.' I went over and looked at her in the face and I said, 'How can I possibly be afraid of you.' She wouldn't let me look her in the eye. She just kind of turned away a little. And just as the bell went off I was chasing her out and I shouted, 'You god damn

bitch.' The first part of the dream is kind of vague. It was a race against time to get some place. It was something to do with this inheritance. I could see the whole thing like a map and the different routes I had to go to beat the other people. I seemed to know the progress the other car was making. Then I remember getting out of my car and running because I saw someone who I thought was going to the place where we were racing to. There was something about a man who was . . . who looked old, but was really young. He had a beard and everything, but still he was really young compared to somebody else. And we had to do something with an old man who was going to die soon to get his money. This part was all vague, and then somehow we're in this house and I was trying to thwart this woman. I think she was in the other car I was racing with. The woman was a woman I'd never seen before."

2. "I don't remember too clearly, but anyway, I was watching a guy standing in the street. Suddenly he raised his gun and shot a woman in the back. I'm sure it was a woman. And I ran. There was a little frame house sitting on the street. Just a few rooms, 5 or 6. I ran in the front door and started running out the back. I was afraid this guy would come out the back door. Somehow I knew he was on my side, yet I was afraid he would come after me. I felt frightened and anxious when I woke up and didn't know why, because at first I couldn't remember the dream."

3. "This dream started out at a—no . . . oh, Lord, it started out with Miss C (a well known singer). She seduced me. That's how it started. I don't remember how we got undressed or anything, but we got undressed and she was kind of neurotic and I had a queer feeling I was being manipulated. She scorned any way of conventional intercourse. I'd try to do it conventionally and she'd just sneer at me. She had me doing all these different things. First I was on my back and then that didn't satisfy her. There were three of us actually. Some other girl was helping her, and it was funny because they were just casually explaining what they wanted me to do and I didn't feel embarrassed or anything. But this other girl would take my penis and say, 'Well, you've got to do it this way.' And Miss C was very impatient. 'Let's get on with it.', she said. Finally I got mad and left. I got mad and went into my room and leaned on a chair. I leaned resting my right hand on it and tuning a T.V. set with my left. So then I came back and sat down to dinner. And all of a sudden I looked at my hand. It seemed like we were in a family circle and I was part of an entirely different family than I should have been. And then I looked at my hand and it had started bleeding. First my little finger was bleeding and then it looked like my whole damn hand was bleeding. And then there were a series of cuts clear up my arm. I was kind of stunned and somebody said there was a razor blade on that chair. I remember remarking that I'd like to clobber the guy who left a razor blade there, and the memory came to me in the dream that I had left a razor blade there myself sometime previously and forgotten about it. And then I was amazed that I didn't feel myself cutting myself when I had my hand on the chair. I went back into the living room where I had been having intercourse with Miss C and now it seemed to be a little first aid station and there was a little negro maid and she started to wash my hand off. It was still bleeding a little bit. I asked her if she didn't have some gauze and while I was waiting for her to get some gauze, there was a boy there and he was asking me about a pile of duck decoys that were made out of sponges and he said he was puzzled. He said, 'Is this a bald eagle decoy?' There was one decoy in the pile that—the others were painted brown with yellow heads—and this one was the bald eagle and it was just solid yellow and it looked like it was made out of a sponge and I started explaining to him all about the

theory of how you sometimes only need one characteristic to fool animals. And I explained how chickens avoided a silhouette of a bird if it had its wings anterior like a chicken hawk, and just about that time the bell went off."

4. "It had something to do with bridge. We were sitting at the bridge table. Just three of us, these two women and I. There was something about how a hand had been played wrong. I was very puzzled about the way it had been played. Then I looked at my cards and they were the wrong kind of cards. I didn't know what to do, and then I woke up."

Comment: This dream sequence resembles a classical tragedy to a surprising degree. The hero is at first presented in a triumphant role but as the sequence progresses, he is vanquished by the very forces that were originally within his control. It is as if the ancient law of *hubris* had been invoked and once the dreamer exhalted in his triumph over a woman, he was doomed to be destroyed by another woman.

In the first dream, the dreamer wins a consummate victory over his female competitor in the race for an inheritance as he scorns her "trump card", calls her a "god damn bitch", and chases her from the room. He is no longer as certain of himself in the second dream, and when a woman is shot in the back (compare this cowardly act to the bravado of the first episode when the dreamer wanted to look the woman straight in the eye) by a male associate who may represent the dreamer himself, he runs fearing that he may be betrayed by his shadowy male friend. In the third dream, the hero is subjected to the humiliation of accepting a passive role in intercourse with "Miss C" and another woman. Immediately afterwards he cuts his arm on a razor blade he had left on a chair. If the "shadowy friend" mentioned above actually represented the dreamer himself, in both dreams he would be the instrument of his own injury. Following his passivity with Miss C, he exerts his masculinity in a totally different direction teaching a young boy about a traditionally masculine activity, hunting. Demonstrating how far the reversal of position has gone in the reported series, the final dream finds the hero playing cards with two women and discovering that his cards are somehow "wrong". A far cry from the first dream in which he felt no fear of even his competitor's trump cards! The moral of this little tragedy might be stated, "Don't compete with woman for their relation is terrible."

Series C

1. "I absolutely know I was dreaming because I have an erection and an erotic feeling as though it's (ejaculation) just about to happen. It was in an apartment house and I was the superintendent. There was this girl that had an apartment. I was going to tell her that part of the house was going to fall down when she was in the shower, and then she'd come rushing out of the bathroom without any clothes and I'd stand there and look at her. It was stupid."

2. "We were sitting around a table eating lunch, in something like a faculty club, and you (experimenter) were sitting on one side and Doctor A. was on the other. The conversation was about cats. We were talking about cats you were using in your experiments and apparently you had just done an operation on a cat and you were talking about it. It had been a success. Then I mentioned this other cat. I thought you had a cat that you were going to have live in terror all its life just to see if its heart rate would increase. I was thinking just as the bell went off that I was glad I was not around when you were ready to frighten that cat and throw it into a state of terror because I couldn't stand the sheer brutality of it."

3. "You (experimenter) and I were walking around, It had something to do with finding a place to live. Apparently you were poverty stricken. You were sponging off me all the time. I was always giving you money.

The last sequence had to do with going over to a barracks and you pulled some kind of deal. You told the soldiers at the barracks some terrible tale of woe and all the soldiers contributed and gave you some money. You told them your name was Baldy, that was it. You told them your name was Baldy and all the bald men in the company gave you some money. We walked out again. I wanted to go some place that night and I only had one pair of pants and you said, 'Well, why don't you get them pressed white you wait', and then you started telling me about this great place to get your pants pressed. This was supposed to be the best place in town to do it, and we just had to go there. I said, 'Well, I don't have my walking shoes'. It's funny, I just looked and my shoes were all lying right there on the sidewalk. I looked and said, 'But my walking shoes aren't here. They're at the repair shop.' We started to walk off as the bell rang."

4. "I was consulting Tom S. about the rent and what to do about our place. Apparently we had three girls moved in with us. I didn't seem to know anything about it in the dream but I took it for granted and wanted to know what to do about them. We were trying to decide if they would pay the ninety dollars or if they would pay the one hundred and forty dollars. And we thought that they probably wouldn't pay anything. They were living on us—sort of sponging off us for a song at the time. I was trying to think of someone who had enough so he could pay the money and not think anything of it. That's all there was."

5. "It seemed like I had a scrotal hernia that had to be repaired and so I was in the hospital and was walking around the corridors worried because it was almost time for my operation and my mother wasn't there, and nobody was there, and I was kind of scared. So I went into the operating room and it was kind of as though I was a little boy, I think from my behavior. Anyway I went up to the operating room and I kind of looked around like I was sort of mentally trying things out and I saw the ether hose. And then I began to really get panicky and I went downstairs again. I was thinking, well, if I took ether I might start vomiting and I'd just eaten strawberry pie. I was trying to decide what anesthetic I wanted. I remember running up and down stairs. I was looking for someone to come. And all this time I was walking in the hospital I was thinking about the worst things that could happen, that the anesthetic would wear off too soon and I'd wake up in the middle of the operation. I went down to this shoe shine shop in the basement of the hospital, and I walked along. I was thinking of calling up my folks and asking them what the hell the deal was. Were they going to be there or weren't they. I went down and bought a cough drop from a guy sitting on one of the shoe shine chairs and then walked toward a bookstand and veered around it for some reason that seemed to be significant. It was as though time was really pressing now. I was walking rapidly and I remember hearing my shoes click on the floor. I think it was just about then that the bell went off."

Comment: This sequence strikingly demonstrates a reaction of the subject to the experimenter and to being awakened; an inherent part of the experimental situation.

It would seem that the interruption of the first erotic dream, the frustration of its culmination, and the guilt engendered in the dreamer by being caught, aroused considerable hostility toward the experimenter. This was expressed in two succeeding dreams in which the experimenter was portrayed in an exceedingly negative light as a torturer of cats and as a moocher. Feelings of hostility were more generalized in the fourth dream in which the dreamer was trying to decide what to do about three girls who were "sponging off us". The fifth dream may be interpreted to mean that the subject was being punished for his hostility.

Thus the dreams in this sequence appear to represent a continually developing reaction to the first awakening. A complex dis-

play of feelings and attitudes toward the experimenter and the experimental situation is revealed without the subject being completely aware of his revelations.

Series D

Another series was noted that will not be cited in full in which a theme was repeated in each successive dream, but with each repetition seemed to express more openly deeper psychological material. In the first dream, the dreamer was attending a lecture. He asked a question of the professor who rebuffed him with a sneering remark. He became very angry, but managed to control himself. In the second dream, he was talking to a male acquaintance. He made a remark to which his friend took exception. Again he became very angry and this time he called his friend a few uncomplementary names before walking away. In the third dream, he was working in a hospital and a nurse began to criticize him severely for some minor ineptitude in his work. Again, he experienced anger, but controlled it and confined himself to thinking, "What an old hag she is". The fourth and final dream found the dreamer eating dinner with his family. His mother wanted him to eat some leg of lamb which he refused. She began pleading with him and he began to get angry. Then, "She kept kissing me like a little kid and fishing for complements on her cooking. I got absolutely burned up, got up, and walked out of the house."

Comment: The theme remains fairly constant: some other person arouses the dreamer to anger which he always manages to control or contain verbally. However, it seems that each successive dream more clearly represents the basic situation as the individual with whom the dreamer is in conflict changes from a professor to his own mother. This sequence could well be considered an example of the phenomenon Freud was concerned with when he said, "In interpreting dreams consisting of several main sections, or in general, dreams occurring during the same night, the possibility should not be overlooked that separate and successive dreams of this kind may have the same meaning, and may be giving expression to the same impulses in different material. If so, the first of these homologous dreams to occur is often more distorted and timid, while the succeeding one will be more confident and distinct (7)."

DISCUSSION

The method used to gather the material presented in this paper offers an unique opportunity to study the interrelations of the multiplicity of dreams occurring on a single night. However, it has at least two important limitations. First, the price paid for awakening the subject during an eye movement period is the loss of an unknown amount of material as the dream is prevented from reaching its natural termination. Since one can never know in advance exactly how long an individual eye movement period will endure, the experimental awakening must be accomplished fairly soon after the onset of eye movements, or the risk of the period ending before it can be interrupted will be considerable. Allowing an eye movement period to continue 10 or 15 minutes will generally ensure a productive awakening, but one can never be certain how long the dream might have lasted had the awakening been delayed. The duration of any single period may vary from five minutes to over an hour (5).

Second, the procedure of the awakening must disturb the dream pattern. Not only is a dream abruptly and unnaturally terminated, but a series of events, namely the awakening, the description of the dream, and the handling of the recording apparatus, are added to the dreamer's store of "day residues" which may influence the subsequent dream. An example of this was seen in series C where the interruption of the first dream in the sequence mobilized feelings toward the experimenter which were then carried into succeeding dreams. A more

striking example occurred in another series. After the subject had finished describing the first dream of this series, the experimenter, who had run out of cigarettes, yielded to temptation and approached the subject to ask if he could smoke his. The subject urged him to do so and went back to sleep. The next dream was as follows:

"I was riding downtown in a bus with a friend of mine. I don't remember where we started, but we were going to see a movie. I'm not sure what movie it was, but he said that he wanted to see it too, and asked if he could go with me. I said O.K. Then when we were on the bus, he bummed a cigarette from me, in fact he bummed two. There was something very greedy about the way he snatched the cigarettes away from me, and I only had two in the pack. (There were actually only two cigarettes in the subject's pack when the experimenter took it.) A funny thing was that one of the cigarettes was lit when he pulled it out. Then I asked him if he ever tried to quit and he said, no, that he just had to have a pack and he smoked them as fast as he could. Then I talked about the way cigarettes made my throat raspy and a variety of other things I didn't like about them. He said that he thought I ought to quit. About this time we reached our destination." (The dream continued without further reference to cigarettes.)

In this study, there appeared to be considerable relatedness among dreams occurring on the same night, even to the extent (in 7 of the 38 sequences) of all the dreams being interrelated by expressing variations of the same theme or a continuing development of the initial action. However, it cannot be concluded that this is the natural course of events. In view of the limitations mentioned above, the amount of relatedness that was actually observed is compatible with several contrasting hypotheses:

(1) It may be that in undisturbed sleep each dream ends with some sort of resolution, perhaps with the satisfaction of some impulse, so that the next dream can start out with a clean slate as it were. The natural pattern in this case might be a group of dreams related only by chance. When the dreams are interrupted, the expression of the underlying impulse may be thwarted so that it must await satisfaction until the next dream period. If this analysis be correct, dreams following interrupted dreams would be more likely to contain elements similar to elements in their predecessors, and this might be the basis of the relatedness cited herein.

(2) On the other hand, it may be that while all dreams during a night of undisturbed sleep give varied, but related expression to one basic impulse, experimental awakenings disturb this homogeneity by interjecting new elements and repeated disturbances that stir up all sorts of new feelings in the subject. The observed relatedness in this case may be thought of as the disturbed expression of an even greater relatedness that would normally have occurred in undisturbed sleep.

(3) The awakenings wherein the dream is recalled and described may serve as the mechanism by which the dream contents become related. The dream narrative becomes the "day residue" from which certain elements are incorporated into the next dream. Thus, the relatedness is an illusion created by the method used to study it. This type of process was illustrated in the first and second dreams of series A. In the first, the subject was unable to remember one of the characters and used a very common expression to indicate this, saying, "He or she is just a blank." In the second dream of the sequence this statement was incorporated dramatically when an ominous character entered the scene saying, "I am Mr. Blank and I want the plans." Were it not obvious that the first use of the word, "blank" had nothing really to do with the first dream, these two dreams would seem related on this basis.

(4) A final possibility is that the observed

degree of relatedness is essentially the natural pattern. Thus, the usual case is that dreams weave their plots independently, perhaps using an occasional reference from a contiguous dream, but on certain nights for unknown reasons the dream thought or particular theme is powerful enough to be maintained throughout the whole night.

Regardless of the mechanism, it is nonetheless true that many of these sequential dreams obtained through experimental intervention are definitely related to each other and occasionally a coherent dream thought seems to be maintained in all dreams of a sequence. Furthermore, when the manifest content of these related episodes is considered in its entirety, insights into the dreamers personality are suggested that are not readily discerned by examining the manifest content of any single dream in the sequence. Thus, in series B, the thought expressed by the totality of the manifest content appears to be that competition with women leads to destruction. The manifest content of no single dream in this sequence would approach an expression of this thought. Such a finding suggests that knowledge of the manifest content of sequential dreams may provide an unexpected source of information about the dreamer's psychodynamics.

SUMMARY

Brain waves and eye movements of eight sleeping subjects were continuously monitored, allowing elicitation of four or more dream narratives on each of 38 nights. The interrelationships of these homologous dreams were described and selected dream sequences were reproduced in full. The difficulties inherent in this method of obtaining dream material were considered and the implications of the observed relationships for the natural dream pattern were discussed.

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THE SEEKING OF SYMPATHY OR PITY

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While the seeking of sympathy or pity is generally recognized as an extremely common human reaction, it is seldom mentioned in the psychiatric or psychoanalytic literature. When it is mentioned, as will be presented in a review of the literature, it is not viewed in terms of its significance as a way of relating to other people. To discuss the seeking of sympathy or pity in the object relationship frame of reference is one purpose of this paper. Two other aims are to consider its importance in psychoanalytic theory and practice, and its connection with masochism.

I

Pity, as defined in Webster's New International Dictionary (2nd Edition), is "feeling for another's suffering or distress, and sometimes regards its object as not only suffering, but weak or inferior." Sympathy as compared with pity, is "fellow feeling with others, especially in their grief or affliction; the word implies a certain degree of equality in situation, circumstances, etc. . . ."

The feeling of pity, though not the seeking of it, was mentioned by Freud (9) in "Three Essays on Sexuality" as a deterrent to cruelty. He stated, "The absence of the barrier of pity brings with it a danger that the connection between the cruel and the erotogenic instincts, thus established in childhood may prove unbreakable in later life."

Brill (6) stated, "During the pregenital period, the child is 'without pity'; he is in our sense cruel, destructive, and without remorse. To make him fit for civilization, he must be repeatedly curbed until a reaction–formation or dam is formed within him which henceforth opposes his natural aggression. This particular dam . . . is sympathy."

Alexander (1) said much the same thing when he stated, "Pity is a . . . protective countercharge (counter–cathexis) against original tendencies toward cruelty . . . In reaction formations . . . identification with others and ambivalence toward them are contributory. Pity, for example, presupposes a positive identification with a person toward whom one feels both hate and love. If love were absent pity could not serve to keep hostile impulses in check."

Fenichel (8) stated, "An example of special importance for social relations in general is the psychology of pity. Pity is undoubtedly a character trait connected with an original sadism. One may suspect a reaction formation. This suspicion is confirmed often enough when, through analysis or through an instinctual outburst, sadism actually is found behind the facade of pity; but at other times, pity seems to be a sublimation, the sadism really being supplanted by it. And in both instances the basic mechanism appears to be an identification with the object of the original sadism." Fenichel also referred to Jekels who investigated in detail the sublimation type of pity.

Benedek (2) maintained, "Pity comes from a suppressed feeling of hostility and superiority."

All the authors quoted thus far except Benedek considered pity in terms of the person who feels it and not in terms of the person who seeks it. Benedek stated, "The normal reaction of a man who has concentrated his ego–strength, his pride, upon recovery (from a war injury) is to avoid pity. *Pity* is a peculiar form of 'goodness'; it humiliates the receiver and places the donor in a superior position. No wonder it embitters those who are pitied. There are of course men who want to be pitied; they, we find, however, will also reveal other signs of depend-

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ence and neurotic behavior. If the wounded man were not so gnawed by insecurity and helplessness, the idea of pity would not even enter his mind. But when he now fears that his wife will pity him, this is because he is convinced that her pity is aroused because she cannot love him as he is now." In other words, Benedek implied that a person who could no longer hope to be loved might be reduced to receiving pity.

Menninger (12) discussed the subject of sympathy and pity in relation to the surgical patient. He wrote, "In considering the motives for surgical operations, aside from the objective surgical purpose, one must distinguish, of course, between the primary or paranosic gain and the secondary or epinosic gains. In the latter category I should class the amenities associated with the hospital experiences, particularly the period of rest subsequent to and sometimes preceding the operation, the solicitousness of friends and relatives, the physical attentions of nurses and the reassurances of the physician. I am not sure, however, that some of these factors may not enter deeply into the primary motivation for the surgical operation, particularly in connection with the wish to receive attentions, sympathy and even pity as the only acceptable form of love and the wish to be mothered in one's suffering by solicitous father and mother–surrogates. . . ."

Menninger clearly brought out the fact that the pursuit of expressions of sympathy or pity may be a goal in itself. He also remarked that this satisfaction was sought by the patient "in lieu of being loved in a more normal way which a sense of guilt prohibited her from asking or accepting."

II

It seems worthy to note that pity seeking, like malingering (Szasz, 14) often conveys a moral judgment. Benedek (2) pointed out that pity "humiliates the receiver and places the donor in a superior position." She added, "no wonder it embitters those who are pitied." In common usage the seeking of sympathy is often regarded as more "respectable" or less reprehensible than the seeking of pity. It is used to refer to soliciting "tender sorrow" without the contemptuous or depreciating quality of pity. It is also at times used synonymously with condolence by which it is meant that one grieves with another who has suffered a loss. The seeking of sympathy is regarded as "bad" and a cause for condemnation if there is no "justification." It is regarded as "good" or acceptable if there is an evident and "justifiable" reason such as loss or illness. It seems to me that the terms pity, sympathy, solicitude and condolence have become cloaked in such moralistic and judgmental garb that it is somewhat difficult to approach the subject from a scientific viewpoint.

When sympathy or pity seeking is mentioned it is usually in connection with secondary gain. This was so in the quotation from Menninger (12). The concepts of gain (primary and secondary) and object relationships approach the problem from two different standpoints. According to the former, sympathy or pity seeking is a consequence of a resolution of an unconscious conflict. This resolution (symptom) is utilized (consciously or unconsciously) to derive some benefit from what is assumed to be an undesirable situation. Thus sympathy or pity seeking is not a primary goal but rather it is incidental to one. This stands in sharp contrast to the object relationship point of view in which sympathy or pity is directly and specifically sought as a way of establishing and maintaining a relationship with another person.

When sympathy or pity seeking is viewed as secondary gain it is often regarded as an annoyance which interferes with a psychotherapeutic approach to the underlying conflict. At best it is regarded as an obstruction that the therapist would like to circumvent. The reactions of people generally to sympathy or pity seeking depend upon whether they believe that the symptom from which it stems is "real" (organic) or "unreal"

(either psychogenic or consciously determined) and whether or not it places a claim upon them to provide something.

In Menninger's remark (above) there was the recognition that sympathy seeking could not always be labelled secondary gain. Yet, strictly speaking, it was not primary gain either. While the author did not drop this frame of reference, even though it clearly ceased to be meaningful or even usable, he did point out the importance of sympathy seeking as a way of relating to other people.

III

The seeking of sympathy or pity is an almost ubiquitous phenomenon in human relationships. It may occur as a major theme when this patterning of object relationships has been set down by early interpersonal experiences. When the latter is the case, the person says in essence, "I am a poor, pathetic human being. My fate is a miserable one. I feel sorry for myself and everyone else should feel sorry for me, too." This person sees the darker side of every situation. He belittles whatever he does. The one thing that might detract from an otherwise pleasant experience is presented in such a way that it completely overshadows all the rest. He allows himself to be "used" or unconsciously manipulates situations so that he will be used. Even when he is not, he reacts as though he were. He must suffer because suffering evokes a response of sympathy. This is what he can hope to achieve in his relationship to others.

Sympathy or pity seeking as a major theme in relating to others may come about in a number of ways. My attention was first attracted to this subject by a young woman who constantly cried "poor me" and thereby obtained pity. An important determinant of this behavior was the competition for her parents' affection with a younger sister who was "helpless" (when a baby) and "sickly" (as a young child).

Freud (10) cited an instance in which illness might be "exploited" to obtain, among other things, solicitude (or perhaps sympathy or pity). He said, "The motives for being ill often begin to be active in childhood. A little girl in her greed for love does not enjoy having to share the affection of her parents with her brothers and sisters, and she notices that the whole of their affection is lavished on her once more whenever she arouses their anxiety by falling ill. She has now discovered a means of enticing out her parents' love, and will make use of that means as soon as she has the necessary psychical material at her disposal for producing an illness. When such a child has grown up to be a woman she may find all the demands she used to make in her childhood countered owing to her marriage with an inconsiderate husband, who may subjugate her will, mercilessly exploit her capacity for work, and lavish neither his affection nor his money upon her. In that case ill-health will be her one weapon for maintaining her position. It will procure her the care she longs for; it will force her husband to make pecuniary sacrifices for her and to show her consideration, as he would never have done while she was well; and it will compel him to treat her with solicitude if she recovers, for otherwise a relapse will threaten. Her state of ill-health will have every appearance of being objective and involuntary—the very doctor who treats her will bear witness to the fact; and for that reason she will not need to feel any conscious self-reproaches at making such successful use of a means which she had found effective in her years of childhood."

In this quotation from Freud, an extremely common human phenomenon is described. Children learn that solicitude, which is compounded of sorrow and anxiety, or pity is evoked by illness. This leads to the expectation that illness later in life will be responded to in a similar fashion. According to Freud, the patient made use of illness as a way of controlling her husband, of obtaining solicitude, etc. from him "as soon as she has the necessary psychical material at her dis-

posal for producing an illness." It seems equally likely that if the need for solicitude or pity, as a way of relating, is intense, the patient might use *whatever* "psychical material" is available to bring this about. If one reasons in this way sympathy or pity is primary (not primary gain) and the conflict that is "used" is secondary. It seems to me, however, that the terms primary and secondary are of no particular value in this context. Two crucial issues exist side by side: How does the person relate to others? And why does she relate in this way (*i.e.* what situations or conflicts brought this about)?

In the aged the seeking of sympathy or pity as a way of relating often becomes a glaringly prominent theme when the stresses (physical illnesses, retirement etc.) interfere with previous patterns and lead to the pursuit of the gratifications of an invalid. This could, of course, be regarded as seeking secondary gain. It is, however, also an attempt to establish a way of relating when previously used avenues are no longer open.

Physical illnesses tend to foster a response of sympathy or pity and, depending upon the limitations (physical and psychological) that are imposed, encourage an adjustment at this level (or a struggle against it). Certain disabilities (blindness, amputations etc.) are most apt to stimulate sympathy. One patient suffering from myasthenia gravis bemoaned the fact that there was no white cane for his illness. He was sure that if he were blind people would "understand" and feel sorry for him (7).

It is possible that the so-called psychosomatic disorders which are regarded as substitutes for crying—bronchial asthma, vasomotor rhinitis and urticaria—also unconsciously express a wish for sympathy or pity that must be warded off. Here crying, which would be an appeal for sympathy and the type of care that is provided for a child, must be stifled because of pride or for other reasons.

The pursuit of sympathy or pity, as a transitory phenomenon, arises in almost every analysis. A common instance is the following: At about the time that an analyst is to leave on his vacation, the patient has a fantasy of becoming ill or injuring himself. It is his wish that the analyst will then feel sorry for him or pity him and stay with him.

As a transitory phenomenon, too, sympathy (or condolence) seeking occurs when there has been the loss of an object (mourning) or when there is preoccupation with the the body as an object (15) and absorption in its distress (illness).

IV

The phenomenon that has been described might profitably be contrasted with admiration seeking. In the latter case the concept of primary and secondary gain has not been introduced. It seems to me that the question why it has not been introduced is a very pertinent one. The answer seems to be that admiration seeking has not been regarded as a symptom, and hence it has not been labelled. Only in recent years, with the focus in psychoanalytic practice shifting to characterological problems, has it been felt (by analyst and patient) that anything need be done about admiration seeking. Piers (13) has described the shame–driven person. Such a person might seek admiration as a consequence of the shame–producing conflict. This would make the phenomenon parallel to the seeking of sympathy or pity as secondary gain. The seeking of admiration, however, might also be viewed as a way of relating to others when there is too little hope of being loved. Since there is less tendency to pass moral judgment on this maneuver than sympathy or pity seeking, it is easier to recognize it as a means of relating to others.

In terms of a genetic developmental frame of reference, sympathy or pity seeking would be regarded as a disturbance at the oral level. The person who attempts to evoke a response of sympathy or pity is also asking or demanding to be cared for (fed) as a young child. In contrast, the person who seeks to be

admired would be regarded as having his difficulty at the urethral or phallic stage.

Bibring (5), in discussing this issue in another connection, stated, "Competitive strivings within the oedipal situation are intimately linked up with exhibitionistic and sadistic needs to defeat the rival and to be admired by maternal images or substitutes. In the phallic stage, therefore, the narcissistic aspirations stem mainly from the competitive situation, the wish to be admired, to be center of attention, to be strong and victorious, not to be defeated, and so forth."

The person who seeks admiration is classically described as prideful and ambitious, and he tends to deny his needs for supplies from others. In another sense, however, the receiving of applause is experienced as feeding. Since sympathy or pity seeking places a demand upon another person, it is more apt to evoke a hostile reaction than admiration seeking which does not, at least directly.

V

Berliner (3) and Menaker (11) both focussed on masochism as a function of the ego rather than in terms of its libidinal meaning. Berliner stated, "The motivation of this self-maiming attitude was deemed by Freud to be an unconscious sense of guilt or need for punishment. However, in analyzing this form of masochism, we find that it means as well loving a person who ill-treats and hates one. The subject relieves and reenacts in interpersonal relations a submissive devotion to and a need for the love of a hating or rejecting love object . . ." Berliner also specifically stated that masochism is "a disturbance of interpersonal relations, a pathological way of loving."

In this discussion I am only concerned with those patients who suffer to evoke reactions of sympathy or pity, and this group may be but a small one when compared with the group referred to as moral masochists.

Berliner stated, "When the masochist markets his suffering with demonstrativeness or the exhibition of martyrdom he feels it gives him claim for being loved, and also for prestige and domination." He also stated, " . . . masochistic aggressiveness is a more intense form of the magic gesture characterized by the idea: 'You will be sorry'. It is revenge which, however, is veiled from consciousness by its libidinization. It is the love object toward which vindictiveness is directed but which also cannot be given up. Making someone sorry, by self-sabotage, is intended both to hurt the love object and make it concerned for the subject."

In these quotations from Berliner the idea is clearly expressed that masochism (self-sabotage) is used to evoke a reaction of sympathy as a form of (or probably more accurately, as a substitute for) love. In addition, it is also a way of hurting the love object. This is reminiscent of the child who, feeling unjustly treated by his parents, says, "I'll hurt myself and then you will be sorry." He will get even and at the same time he will receive sympathy as a substitute for love. This type of childhood experience is almost universal. It probably crystallizes into a pervasive reaction pattern only when it is repeatedly and consistently provoked by parents or parental figures during childhood. It might then be said that this way of relating to objects is "conditioned" by experience.

Consistent with the thesis that has been developed is Menaker's statement, " . . . in masochism the apparent goal of suffering is not the real goal, but merely a way station to it." She also stated: "The masochistic self-conception can be thought of as a primitive way of establishing and maintaining an object relationship with a 'good' imago, as well as of avoiding separation and therefore as a defense against psychosis (entire loss of the outside world)."

Bergler (4), in speaking of the fact that "neurotics unconsciously provoke disappointment" and then fail to realize that they, themselves have brought it about, stated, "They then indulge in self-pity, uncon-

sciously enjoying psychic masochism: 'This can happen only to me.' Consciously, these neurotics realize only their righteous indignation and self-pity. They repress the fact of initial provocation, as well as that of masochistic enjoyment of self-pity". What Bergler stated might be paraphrased in this way: If I am not loved, I can at least feel sorry for myself, *i.e.* experience some sort of relatedness, even if the process is now largely intrapsychic.

Since suffering usually evokes a response of sympathy, there are people who endure (or even seek) suffering in the interest of receiving sympathy from others. Also, they suffer to feel sorry for themselves. The process is partly internalized so that an introjected parental attitude provides the feeling of sympathy.

It is often stated that people derive pleasure from suffering. This may be so if the suffering is erotized or, loosely speaking, if it precludes or assuages feelings of guilt. It seems evident, however, that in some instances the pleasure is not derived from suffering but from the reaction of sympathy it evokes. Here suffering is simply endured as a precondition for an affective response in an interpersonal relationship.

VI

The focus in this presentation has been on the meaning of the seeking of sympathy or pity in interpersonal relationships. This perspective does not preclude other ways of studying the same phenomenon. It does, however, highlight the way that is most meaningful from the standpoint of psychoanalytic therapy. As is well known, there is general agreement that the development of a so-called transference neurosis and the analysis of it is the core of treatment. This means, of course, that the most crucial issue is what is happening in regard to object relationships (or specifically, what is happening in the transference during the psychoanalysis). The frame of reference of primary and secondary gain may have some usefulness, but its value in connection with therapy is decidedly limited. In fact, it, like the moral overtones it conveys, may actually obscure the issues that are significant in regard to therapy. Here the important question is: Why does the patient attempt to relate to the analyst (and others) at the level of seeking sympathy or pity?

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A PRELIMINARY EVALUATION OF PROCHLORPERAZINE (COMPAZINE) IN CHRONICALLY DISTURBED PSYCHOTIC PAITENTS

BEWLEY D. FRIERSON, M.D.[1]

Each of the growing number of phenothiazine derivatives used to treat psychoses needs close evaluation in light of the encouraging results obtained with chlorpromazine in recent years. The purpose of this study is to evaluate the psychotherapeutic and physiologic effects of relatively high dosages of a new phenothiazine derivative, prochlorperazine, which has been reported to be comparable, and even superior, to chlorpromazine in treating psychotic patients (1–3).

METHOD

The 33 chronically ill psychotic patients selected for this study ranged in age from 22 to 67 years (average: 41 years). Twenty-six patients were schizophrenics, and the remainder had organic or affective psychoses. Although the majority were anxious and hyperactive enough to require periodic seclusion, restraint, or sedation, all were in moderately good physical health. The average duration of mental illness was four and one-half years. No previous therapy—including lobotomy, insulin and electroshock, chlorpromazine, and reserpine—had produced extended remission or improvement.

Throughout the study routine milieu therapy was continued with as little change as possible in ward environment. After being free of medication for one week, each patient was interviewed by the examiner. Thereafter, behavioral changes and side effects were recorded as they occurred and at weekly intervals during the study. Prior to the administration of prochlorperazine, and weekly thereafter, the following determinations were made: Complete blood count, sedimentation rate, urinalysis, blood urea nitrogen, cephalin flocculation, alkaline phosphatase, blood pressure (taken daily), and temperature.

Prochlorperazine was given in 10 mg. and 25 mg. tablets. The initial dosage, 10 mg. three times daily, was increased after three days to 25 mg. three times daily if side effects did not contravene. Subsequently, the dosage was modified according to the patient's clinical response. The highest daily dosage was 225 mg. and the lowest, 30 mg.; the usual dosage was 95 mg. daily. The medication was given for an average of seven weeks.

RESULTS

In reviewing clinical observations and behavioral records, the ward physician, nurse and ward attendant usually agreed closely on the results, which indicated improvement in 20 patients (60 per cent) and no change in 10 patients (30 per cent). The condition of three patients (10 per cent) was judged to have deteriorated.

Prochlorperazine acted rapidly, and anxiety and hyperactivity decreased within 48 hours after the initial dose. Many hostile patients eventually became more cooperative and sociable and entered into group activities more readily. Mute, catatonic patients,

[1] Eastern State Hospital, Williamsburg, Virginia. The author wishes to express his appreciation for the cooperation of Dr. John W. Southworth, Superintendent, Logansport State Hospital, Logansport, Indiana, where this investigation took place.

who had been withdrawn and seclusive, appeared less negativistic, and one who had been almost completely withdrawn for four years began to talk and to associate with ward personnel.

Statistical analyses employing T-tests showed no significant changes in blood pressure or in leucocyte counts. There was no evidence of liver or kidney damage or of bone marrow depression. Electroencephalograms on three patients showed no changes except for an abnormally slow reading in one individual with a previously normal reading.

During the first three days of administration ten patients complained of feeling "nervous and tense," but this effect disappeared after the fourth day of therapy. While marked lethargy had been common with chlorpromazine, only three patients showed obvious signs of lethargy and malaise while taking prochlorperazine. Two patients noted transient blurring of vision 45 minutes to one and one-half hours after ingesting a tablet. A moderately severe rash appeared on the chest, neck, and upper arms of one patient with a history of skin allergy under chlorpromazine therapy. The rash disappeared after the medication was discontinued.

Mild to severe parkinsonism occurred in 11 patients. In eight, symptoms were well controlled with Cogentin. Table 1 reports the relation of this symptom to dosage.

Marked turbulence, with violent activity requiring seclusion and restraint, occurred in two patients about four days after beginning the medication. The drug was discontinued temporarily, and symptoms did not recur when medication was resumed one week later. After the drug had been discontinued for seven days, one patient with no previous history of epilepsy had five grand mal seizures within two hours. Depressed patients did not benefit from prochlorperazine therapy and appeared more depressed as the dosage was increased.

TABLE 1

Relationship of Parkinsonism to Dosage

No. Patients	Daily Dosage	Incidence of Parkinsonism
3	30 mg.	0
20	75 mg.	4
10	150 mg.	7

CONCLUSIONS

Prochlorperazine appears to have a place in the treatment of hospitalized psychotic patients but should be administered with caution while watching closely for side reactions and physiologic changes. Symptoms of parkinsonism, occasionally appearing at low dosages, indicate high phrenotropic action and can be controlled easily by reducing the dosage or by administering Cogentin. The production of ataraxia without marked lethargy, the insignificant hypotensive effect, and the occurrence of therapeutic effects at low dosages seem to be among the most obvious advantages of prochlorperazine. This drug may be effective in hospitalized psychotic patients who have failed to respond to other ataractic agents.

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ANNOUNCEMENTS

There follows a list of new Diplomates of the American Board of Psychiatry and Neurology, Inc., as certified by the Board after examination in San Francisco in March, 1958.

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INDEX, VOLUME 126

A

Acculturation, traits of, 517
Activation, photic-electroencephalographic, pattern, stability and correlates of, 153
Adaptive hormones, participation of in disease susceptibility, 97
Aged psychiatric patients, electroencephalographic findings in, 254
Aggression, dynamic aspects of psychiatric symptoms among prisoners in terms of, 547
Alcoholism, 496
  chronic, auditory hallucinations in, 451
Amino acid and protein metabolism of the nervous system, 33
Amygdaloid and septal lesions, effects of on emotional behavior and conditioned avoidance responses in the rat, 57
Anoxia during succinylcholine-electroshock therapy, prevention of, 535
Antiserotonin substances, BAS, BAB, and bufotenin, effects of on spontaneous electrical activity of the brain, 272
Anxiety, and schizophrenia, 113
  and therapy, Vol. 2, Progress in Psychotherapy, 107
Apraxia, adextrous, 13
  ideational, 10
  kinetic, 16
  nature of, 9
  perseveration of identification in, 14
  pyramidal function in, 28
  subcortical, 23
  unilateral, 15
Aprison, M. H., 289
Auditory hallucinations in chronic alcoholism, 451
Autism, infantile, and the idiot savant, 81
Avoidance responses, conditioned, and emotional behavior, effects of septal and amygdaloid lesions on in the rat, 57

B

BAB and BAS, effects of and of bufotenin on the spontaneous electric activity of the brain, 272
BAS and BAB, effects of and of bufotenin on the spontaneous electric activity of the brain, 272
  clinical evaluation of, 284
Behavior, cingulates and, 148
  emotional, and conditioned avoidance responses, effects of septal and amygdaloid lesions on in the rat, 57
Bergler, Edmund, 488
Bieber, Irving, 322
Biochemical aspects of schizophrenia, 211
Birth, in physiology of mother-child unit, 237
Body image, psychological and phenomenological aspects of disorders of, 499
Bourne's protophrenia, 78
Brain, development of concepts relating to the electrical activity of, 303
  human, studies of serotonin content in, 289
  regions, electrical localization of, 304
  spontaneous electric activity of, effects of BAS, BAB, and bufotenin on, 272
  visceral, its component parts and their connections, 40
Brazier, Mary A. B., 303
Bufotenin, and BAS and BAB, effects of on the spontaneous electric activity of the brain, 272

C

Castration, concept of in female psychology, in hysterectomy, 333
Casualties, electric shock, 360
Cataract of consequences, 3
Catatonia, signs of, 67
Cerebrospinal fluid, glutamic oxalacetic transaminase in, 169
Chemotherapy, BAS, BAB, and bufotenin effects on spontaneous electric activity of brain, 272
  BAS, clinical evaluation of, 284
  chlorpromazine-diethazine treatment, EEG findings during, 392
  hexafluorodiethyl ether (Indoklon), as a convulsant, 530
  5-Hydroxytryptamine (serotonin) content in human brain, 289
  meprobamate, effect of on the electroencephalogram, 268
  of mental disease, some pharmacologic correlations of, 184
  of psychoneurotic reactions, 197
  of schizophrenic reaction, 187
  prochlorperazine (Compazine) in chronically disturbed psychotic patients, preliminary evaluation of, 585
  reserpine, psychologic changes induced by on a group of severely disturbed psychotics, 353
  tranquilizer, pulmonary edema an unusual complication with, 399
Child psychology, impact of psychoanalysis upon, 429
Chlorpromazine-diethazine treatment, EEG findings during, 392
Chronic alcoholism, auditory hallucinations in, 451

Cingulates and behavior, 148
Civilized people, traits of, 519
and laboratory observations on LSD-25, 176
Clinical evaluation of BAS (benzyl analog of serotonin): A tranquilizing drug, 284
CNS involvement, comparison of two kinds of flicker phenomena as indicators of, 540
Comparison of psychonanlysis with the dynamic psychotherapies, 441
of two kinds of flicker phenomena as indicators of CNS involvement, 540
Compazine (prochlorperazine) in chronically disturbed psychotic patients, preliminary evaluation of, 585
Conditioned avoidance responses and emotional behavior, effects of septal and amygdaloid lesions on in the rat, 57
Content of dreams occurring on the same night, relationships in, 568
Convulsant psychiatric treatment with hexafluorodiethyl ether (Indoklon), 530
Costa, E., 284, 289

D

Dement, William, 568
Denber, Herman C. B., 392
Denny-Brown, D., 9
Depressions, rarity of among prisoners, 549
Deterioration, mental, signs of, 67
Development of concepts relating to the electrical activity of the brain, 303
Disease, mental, some pharmacologic correlations of the chemotherapy of, 184
susceptibility, participation of adaptive hormones in, 97
Disorders of the body image, psychological and phenomenological aspects of, 499
Dissociation and schizophrenia, 115
emotional, signs of, 68
Dreams occurring on the same night, relationships in content, 568
Drellich, Marvin G., 322
Doob, Leonard W., 513
Dynamic aspects of psychiatric symptoms among prisoners in terms of aggression, 547
psychotherapies, comparison of psychoanalysis with, 441

E

Early object relations, somatic, affective, and personal. An inquiry into the physiology of the mother-child unit, 225
E.C.T. as a life saving measure, 485
casualties, 360
Editorial, 2
EEG, attempts to reach a neuronal analysis in, 312
discovery of, 304
effect of meprobamate on, 268
findings during chlorpromazine-diethazine treatment, 392
findings in aged psychiatric patients, 254
in man, 305
photic-electroencephalographic activation, pattern, stability and correlates of, 153
search for underlying physiology of, 306
Effect of meprobamate on the electroencephalogram, 268
Effects of septal and amygdaloid lesions on emotional behavior and conditioned avoidance responses in the rat, 57
of two antiserotonin substances (BAS and BAB) and of bufotenin on the spontaneous electric activity of the brain, 272
Electric activity of the brain, spontaneous, effects of BAS, BAB, and bufotenin on, 272
shock casualties, 360
Electrical activity of the brain, development of concepts relating to, 303
localization of brain regions, 304
Electricity, nerve, growth of the concept of, 303
Electroshock-succinylcholine therapy, prevention of anoxia during, 535
Emotional behavior and conditioned avoidance responses, effects of septal and amygdaloid lesions on in the rat, 57
dissociation, signs of, 68
Emotionality ratings, rat, 58f
Epilepsy, 101
Escalona, Sybille, 429
Esquibel, Augusto J., 530
Examining the offender: some procedures and peculiarities, 554
Exchange transfusions in schizophrenic patients, 294
Existentialism, and Freud, 341
Experimental nervous disease, acquisition of resistance to, during adaptation to cold, 97

F

Fairfield, Letitia, 101
Family therapy, methods of, 525
Feld, Myron, 176
Finesinger, Jacob E., 2
Fisher, Seymour, 523
Flicker phenomena, comparison of two kinds as indicators of CNS involvement, 540
Freedman, Alfred M., 294
Freud and existentialism, 341
Frierson, Bewley D., 585

G

Genetics, the role of in psychiatry, 403
Gerstmann, Josef, 499

Ginsberg, Victor, 294
Gladwin, Thomas, 64
Glutamic oxalactetic transaminase in cerebrospinal fluid, 169
Goodman, Joseph R., 176
Gordon sign, the, in neurology, 221
Greene, William A., 225
Greenfield, Norman S., 482
Gregg, Alan, 3
Gruhle, Hans W., 105
Guido, John A., 176
Guilt, uterine disease and surgery viewed as punishment for, 330

H

Hall, R., 415
Hallucinations, auditory, in chronic alcoholism, 451
auditory, relationship to schizophrenia in alcoholism, 476
of poliomyelitis patients during treatment in a respirator, 421
Heart as a phallic symbol, hypnoanalytic note on, 401
Henry, Charles E., 254, 268
Hewitt, Donald W., 496
Hexafluorodiethyl ether (Indoklon): Its use as a convulsant in psychiatric treatment, 530
Himwich, H. E., 284
Hippocampal system, 47
Histamine reaction, skin, in schizophrenic and nonschizophrenic mental patients, 415
Hoagland, Hudson, 211
Hollender, Marc H., 579
Holmes, Sir Gordon, selected papers of, 492
Hope, Justin M., 451
Hormones, adaptive, participation of in disease susceptibility, 97
5-Hydroxytryptamine (serotonin), content of in human brain, 289
Hypnoanalytic note on the heart as a phallic symbol, 401
Hypochondriasis: A reevaluation, 482
Hypophysis cerebri, and hypothalamus, 50
Hypothalamus, and hypophysis cerebri, 50
Hysterectomy and the concept of castration in female psychology, 333
psychoanalytic implications of, 322

I

Idiot savant, and infantile autism, 81
Indoklon (hexafluorodiethyl ether) as a convulsant in psychiatric treatment, 530
Infantile autism, and the idiot savant, 81
Impact of psychoanalysis upon child psychology, 429
Ischlondsky, N., 367
Itard's study, 72

J

Jacobi, Jolandi, 103
Jersild, Arthur T., 103
Johnson, Laverne C., 153
Jung, C. G., Komplex, Archetypus, Symbol in der Psychologie, 103

K

Kallmann, Franz J., 403
Kerenyi, Albert B., 141
King, Frederick A., 57
Kling, Arthur, 148
Komplex, Archetypus, Symbol in der Psychologie C. G. Jungs, 103
Krantz, John C., Jr., 530
Kurland, Albert A., 530

L

Lafitte, Paul, 102
Lawrence, D. H., The Fox, and the psychoanalytic theory on lesbianism, 488
Lesbianism, psychoanalytic theory on, and D. H. Lawrence's The Fox, 488
Lesions, septal and amygdaloid, effects of on emotional behavior and conditioned avoidance responses in the rat, 57
Levitt, Melvin, 148
Life and activity of I. M. Sechenov, 367
Lindemann, Erich, 421
Ling, Alfred S. C., 530
LSD-25, clinical and laboratory observations on, 176
Lysergic acid diethylamide, clinical and laboratory observations on, 176

M

MacDonald, John M., 492
Madonick, M. J., 221
Masserman, Jules H., 107, 148
McAvoy, Thomas, 148
McGuire, Frederick L., 540
Measurement of Meaning, the, 493
Mendell, David, 523
Mendelson, Jack, 421
Mental deficiency, and psychosis, 64
performance and potential in, 70
the severely defective individual, 64
Mental disease, some pharmacologic correlations of the chemotherapy of, 184
Mental Health and Infant Development, 101
Meprobamate, effect of on the electroencephalogram, 268
Metabolism, amino acid and protein, of the nervous system, 33
Michael, Kenneth D., 535
Miner, John B., 106
Miyazaki, Motoji, 169

Moreno, J. L., 107
Mother-child unit, physiology of. Early object relations, somatic, affective, and personal, 225
Multi-generation approach to treatment of psychopathology, 523
Murphy, B. W., 554
Murphy, William F., 441

N

Neonatal objects and relationships, 237
  breathing as a motor means of contact and separation in relation to objects, 242
  cephalo-caudad polarity in organization of embryonal and postnatal development, 244
  crying, 245
  different qualities of the relationship to the surface object perception in the neonate, 246
  maternal physiologic activities or their equivalents as objects postnatally, 238
  oral feeding activity, 248
  postnatal respiratory activity or breathing, 241
Nervous disease, experimental, acquisition of resistance to, during adaptation to cold, 97
Neurology, statistical control studies in. IX. The Gordon sign, 221
Nature of apraxia, the, 9
  of uncivilized and civilized people, 513
Nerve electricity, growth of the concept of, 303
Nervous system, amino acid and protein metabolism of, 33
Neurophysiologic studies of personality, 141
Nonliterate people, traits of, 515

O

Object relations, early; somatic, affective, and personal, 225
Obrist, Walter D., 254, 268
Olfactory system, 40
Osgood, Charles E., 493

P

Papez, James W., 40
Paranoid phenomena among prisoners, 550
Participation of adaptive hormones in disease susceptibility, 97
Pattern, stability and correlates of photic-electroencephalographic activation, 153
Pechtel, Curtis, 148
Performance and potential, in mental deficiency, 70
Person in Psychology, the: Reality or Abstraction, 102
Personality, neurophysiologic studies of, 141
Phallic symbol, heart as, hypnoanalytic note on, 401
Pharmacologic correlations of the chemotherapy of mental disease, 184
Phenomenon of auditory hallucinations in chronic alcoholism: Critical evaluation of the status of alcoholic hallucinosis, 451
Phenomenological and psychological aspects of disorders of the body image, 499
Photic activation, quantification and distribution of, 159
  stability of, 161
Photic driving, patterns and stability of, 155
Photic-electroencephalographic activation, pattern, stability and correlates of, 153
Photic stimulation and EEG examination, 154
Physiology of the mother-child unit. Early object relations, somatic, affective, and personal, 225
Pity or sympathy, seeking of, 579
Poliomyelitis patients, hallucinations of during treatment in a respirator, 421
Potential, and performance, in mental deficiency, 70
Preliminary evaluation of prochlorperazine (Compazine) in chronically disturbed psychotic patients, 585
Prevention of anoxia during succinylcholine-electroshock therapy by the use of a new treatment technique, 535
Prison psychosis and regressive changes among prisoners, 550
Prisoners, psychiatric symptoms among in terms of aggression, dynamic aspects of, 547
Prochlorperazine (Compazine) in chronically disturbed psychotic patients, preliminary evaluation of, 585
Progress in Psychotherapy, Vol. 2, Anxiety and Therapy, 107
Protein, and amino acid metabolism of the nervous system, 33
Protophrenia, Bourne's, 78
Psychiatric patients, aged, electroencephalographic findings in, 254
  symptoms among prisoners in terms of aggression, dynamic aspects of, 547
  treatment, convulsant with hexafluorodiethyl ether (Indoklon), 530
Psychiatry and the criminal, 492
  role of genetics in, 403
Psychoanalysis, comparison of with the dynamic psychotherapies, 441
  impact of upon child psychology, 429
Psychoanalytic implications of hysterectomy, 322
  theory on lesbianism and D. H. Lawrence's The Fox, 488
Psychologic changes induced by reserpine therapy on a group of severely disturbed psychotics, 353
  importance of the uterus and its functions: Some psychoanalytic implications of hysterectomy, 322

Psychological and phenomenological aspects of disorders of the body image, 499
Psychology, child, impact of psychoanalysis upon, 429
of Adolescence, the, 103
Psychoneurotic reactions, chemotherapy of, 197
Psychopathology, multi-generation approach to treatment of, 523
Psychosis, and mental deficiency, 64
Psychotherapeutics and the schizophrenic reaction, 109, 136
Psychotherapies, dynamic, comparison of psychoanalysis with, 441
Pulmonary edema, an unusual complication associated with tranquilizer therapy, 399
Pyramidal function, in apraxia, 28

R

Rainer, John D., 403
Raskin, Naomi, 360
Rat, effects of septal and amygdaloid lesions on emotional behavior and conditioned avoidance responses in, 57
Ratings, emotionality, rat, 58f
Regressive changes and the true prison psychosis, 550
Relationships in the manifest content of dreams occurring on the same night, 568
Reserpine therapy, psychologic changes induced by on a group of severely disturbed psychotics, 353
Resistance to an experimental nervous disease during adaptation to cold, acquisition of, 97
Respirator treatment, hallucinations of poliomyelitis patients during, 421
Responses, conditioned avoidance, and emotional behavior, effects of septal and amygdaloid lesions on in the rat, 57
Retrospective observation, consideration of, 225
Rinaldi, Franco, 272, 284
Rinsley, Donald B., 547
Roessler, Robert, 482
Rohde, Amanda R., 104
Role of genetics in psychiatry, 403
Rudy, L. H., 284

S

Sarason, Seymour B., 64
Schizophrenia and children, 132
and social therapy, 135
and the organic substrate, 127
anxiety and, 113
biochemical aspects of, 211
chemotherapy of, 187
communication and, 133
concepts of the genesis of, 129
culture and, 132
dissociation and, 115
etiology of, 118
exchange transfusions in, 294
family of the patient in, 130
isolation, malignancy, and death in, 139
long-term, somatopsychotherapeutic approach to, 337
onset of, 116
psychologic theory, 134
psychotherapeutics and, 109
relationship of alcoholic auditory hallucinations to, 476
skin histamine reaction in, 415
Schneck, Jerome M., 401
Sechenov, I. M., life and activity of, 367
Seeking of sympathy or pity, 579
Selected papers of Sir Gordon Holmes, 492
Selye, Hans, 97
Sentence Completion Method, the: Its Diagnostic and Clinical Application to Mental Disorders, 104
Septal and amygdaloid lesions, effects of on emotional behavior and conditioned avoidance responses in the rat, 57
Serotonin, benzyl analog of (BAS), clinical evaluation of, 284
content of in human brain, 289
effects of antiserotonins (BAS and BAB) and bufotenin on the spontaneous electric activity of the brain, 272
Severely defective individual, 64
Shagass, Charles, 141
Shatin, Leo, 337
Sheard, M. H., 399
Sign, Gordon, in neurology, 221
Skin histamine reaction in schizophrenic and nonschizophrenic mental patients, 415
Soddy, Kenneth, 101
Solomon, Philip, 421
Somatic, affective, and personal early object relations, 225
Somato-psychotherapeutic approach to long-term schizophrenic patients: Three-year evaluation, 337
Statistical control studies in neurology, IX. The Gordon sign, 221
Studies on the 5-Hydroxytryptamine (serotonin) content in human brain, 289
Succinylcholine-electroshock therapy, prevention of anoxia during, 535
Suci, George J., 493
Susceptibility to disease, participation of adaptive hormones in, 97
Sympathy or pity, seeking of, 579
System, hippocampal, 47
nervous, amino acid and protein metabolism of, 33

olfactory, 40
visceral, 43

T

Tanck, Roland H., 353
Tannenbaum, Percy H., 493
Therapy, family orientation, 525
succinylcholine-electroshock, prevention of anoxia during, 535
Tiebout, H. M., Jr., 341
Tomkins-Horn Picture Arrangement Test, the, 106
Tomkins, Silvan S., 106
Tranquilizer therapy, pulmonary edema an unusual complication with, 399
Transfusions, exchange, in schizophrenic patients, 294
Treatment of psychopathology, multi-generation approach to, 523
psychiatric, convulsant, with hexafluorodiethyl ether (Indoklon), 530
Truitt, Edward B., 184, 530

U

Ulett, George A., 153
Umbilical or vascular level of organization, 227
characteristics of the maternal physiologic activities as a changing object relation, 234
characteristics of the maternal physiologic activities as an object, 234
the surface boundary, 230
vascular environment, 228
Uterine and gastrointestinal function, relationship between, 332
Uterus and its functions, psychologic importance of, 322
and the meaning of femininity, 333
disease of viewed as punishment for guilt-laden activities, 330
menstrual function of, 324
psychologic importance of and the meaning of femininity, and the concept of castration in female psychology, 333
reproductive function of, 323
sexual function of, 325
thought of by patients as vulnerable, 331

V

Verstehende Psychologie (Erlebnislehre): Ein Lehrbuch, 105
Victor, Maurice, 451
Visceral brain, its component parts and their connections, 40
system, 43

W

Waelsch, Heinrich, 33
Walsh, F. M. R., 492
Weckowicz, T. E., 415
Wheat, William D., 485
Will, Otto Allen, Jr., 109
Witmer, Lightner, 88
Wolpert, Edward A., 568
Wunderman, Daniel C., 535

T
N
N

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Table of Contents

PSYCHOLOGICAL AND PHENOMENOLOGICAL ASPECTS OF DISORDERS OF THE BODY IMAGE. *Josef Gerstmann* 499

ON THE NATURE OF UNCIVILIZED AND CIVILIZED PEOPLE. *Leonard W. Doob* 513

A MULTI-GENERATION APPROACH TO TREATMENT OF PSYCHOPATHOLOGY. *David Mendell and Seymour Fisher* 523

HEXAFLUORODIETHYL ETHER (INDOKLON): ITS USE AS A CONVULSANT IN PSYCHIATRIC TREATMENT. *Augusto J. Esquibel, John C. Krantz, Jr., Edward B. Truitt, Jr., Alfred S. C. Ling and Albert A. Kurland* 530

PREVENTION OF ANOXIA DURING SUCCINYLCHOLINE-ELECTROSHOCK THERAPY BY THE USE OF A NEW TREATMENT TECHNIQUE. *Kenneth D. Michael and Daniel C. Wunderman* 535

A COMPARISON OF TWO KINDS OF FLICKER PHENOMENA AS INDICATORS OF CNS INVOLVEMENT. *Frederick L. McGuire* 540

DYNAMIC ASPECTS OF PSYCHIATRIC SYMPTOMS AMONG PRISONERS IN TERMS OF AGGRESSION. *Donald B. Rinsley* 547

EXAMINING THE OFFENDER: SOME PROCEDURES AND PECULIARITIES. *B. W. Murphy* 554

RELATIONSHIPS IN THE MANIFEST CONTENT OF DREAMS OCCURRING ON THE SAME NIGHT. *William Dement and Edward A. Wolpert* 568

THE SEEKING OF SYMPATHY OR PITY. *Marc H. Hollender* 579

BRIEF COMMUNICATION. *Bewley D. Frierson* 585

ANNOUNCEMENTS 587

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3. Critchley, M. *The Parietal Lobes.* pp. 171–181. Edward Arnold & Co., London, 1953.

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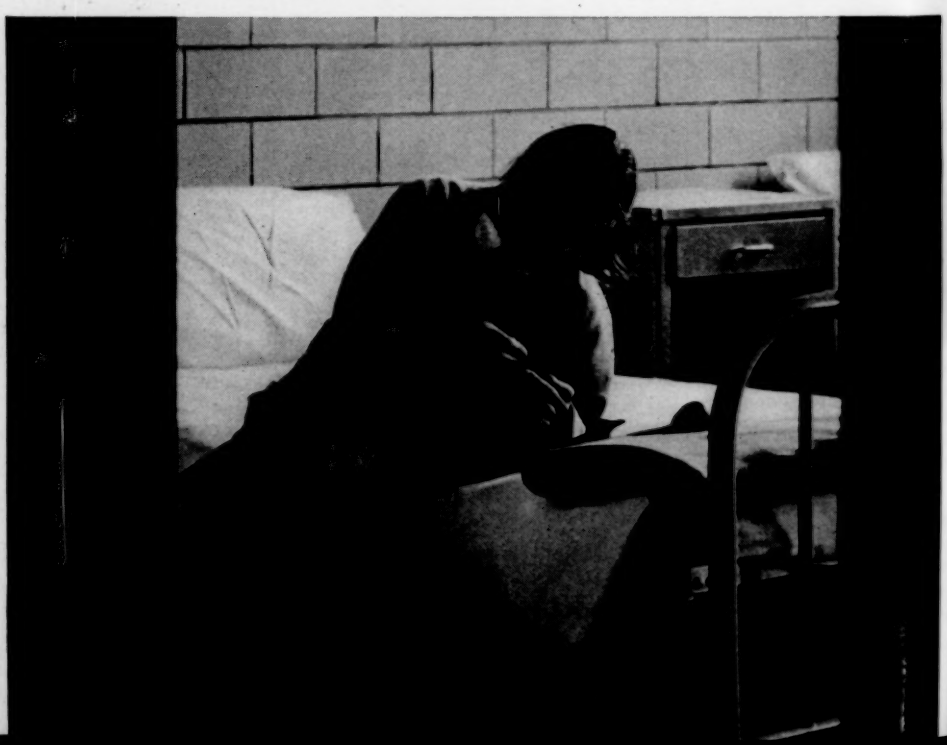

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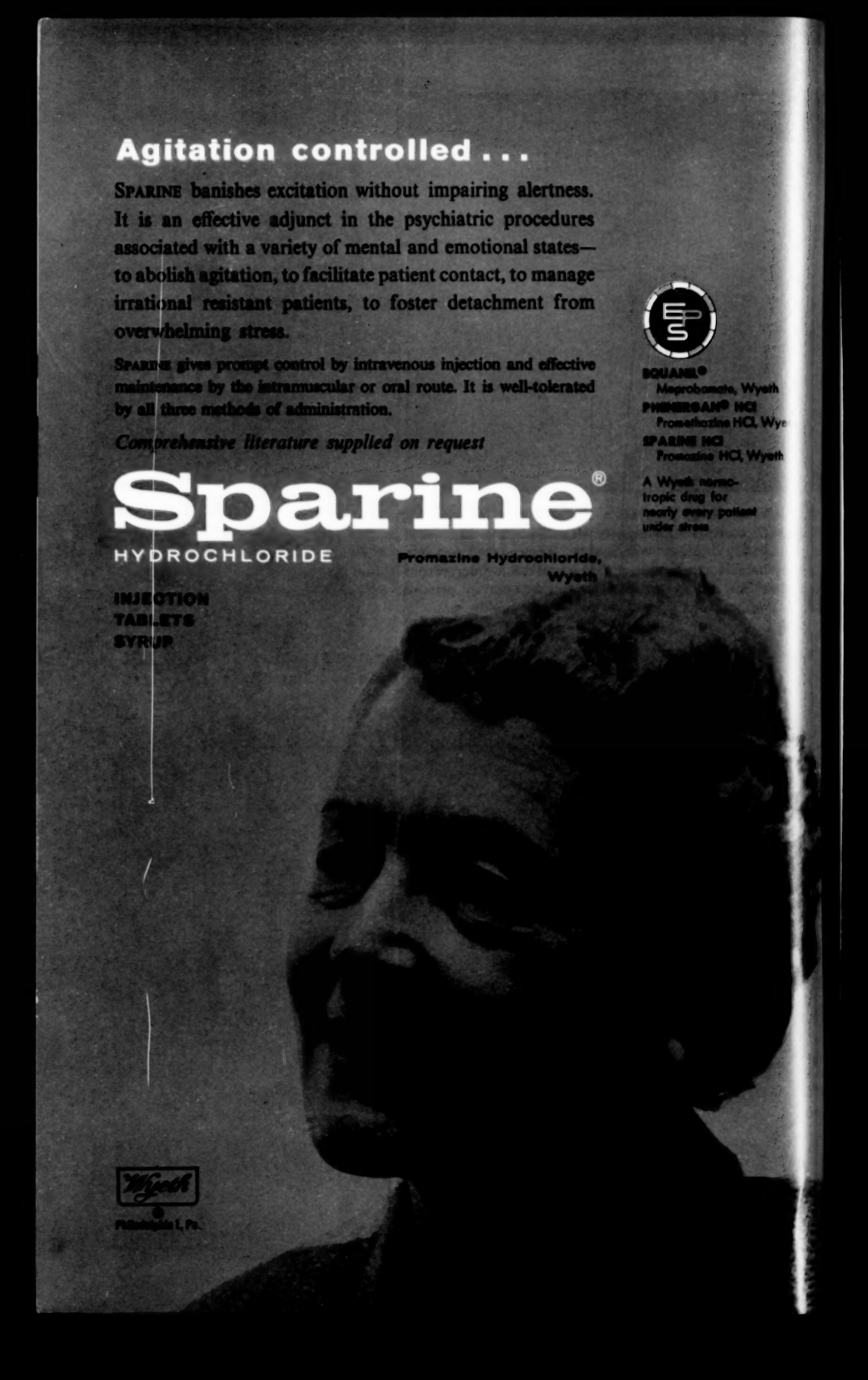

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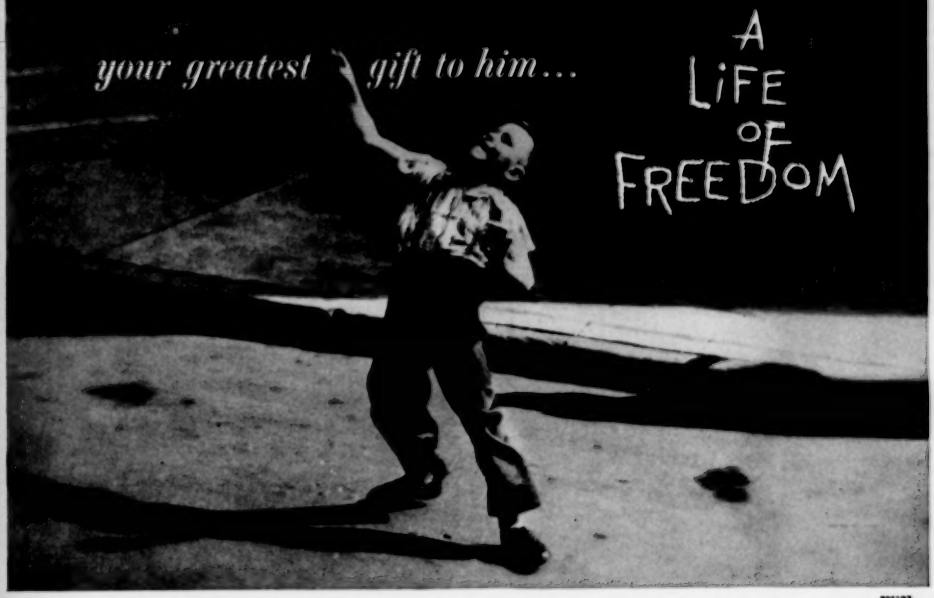

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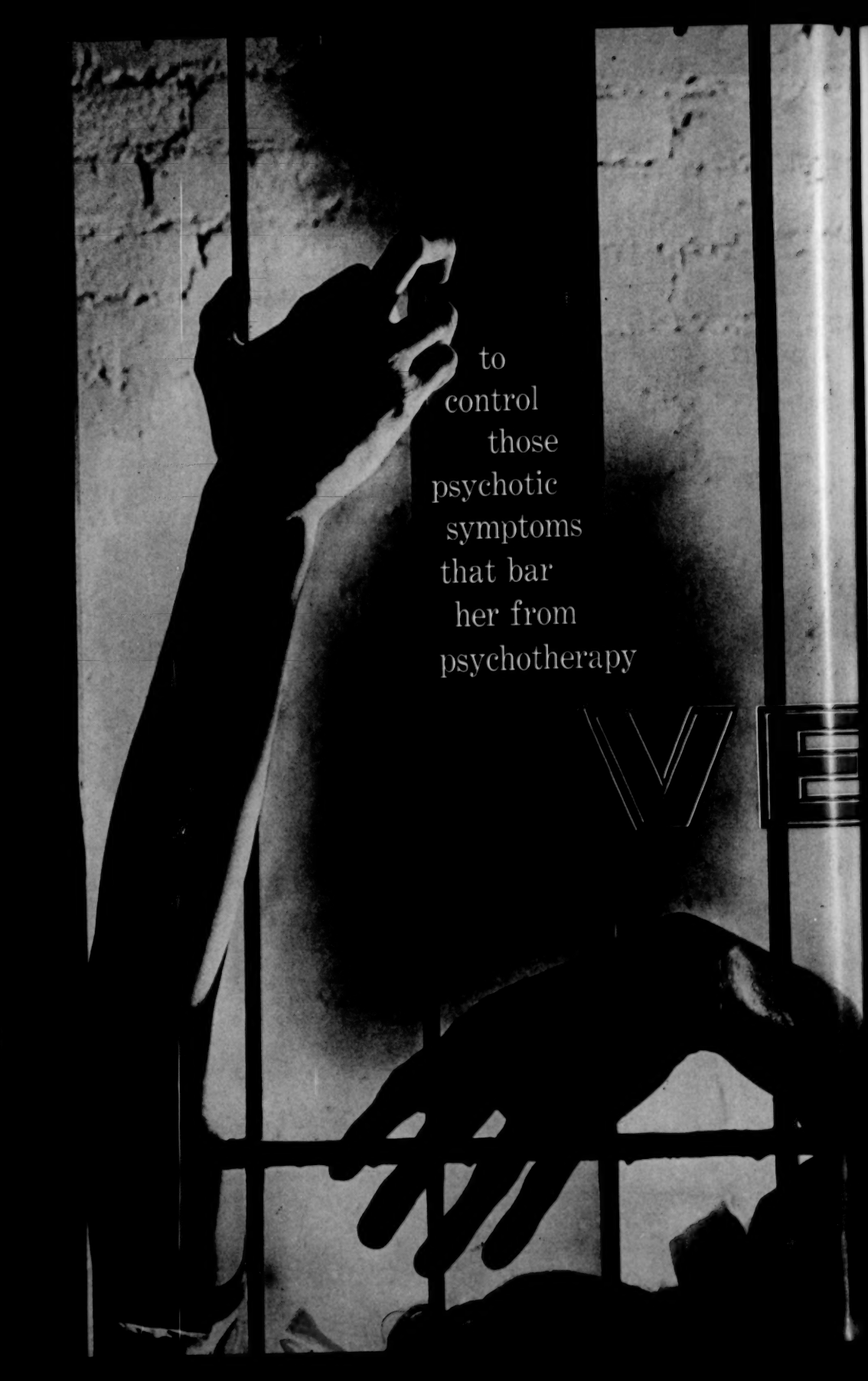
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By ABRAHAM WIKLER, M.D., *National Institute of Mental Health, Addiction Research Center, Department of Health, Education, and Welfare, Public Health Service, Public Health Service Hospital, Lexington, Kentucky*

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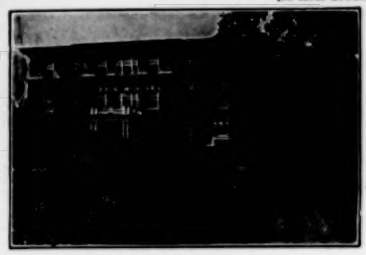

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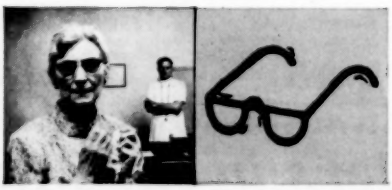

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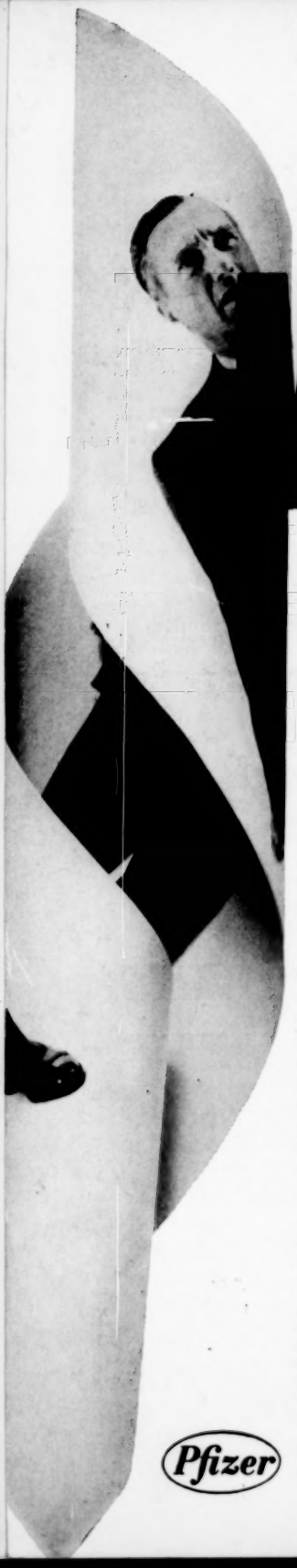

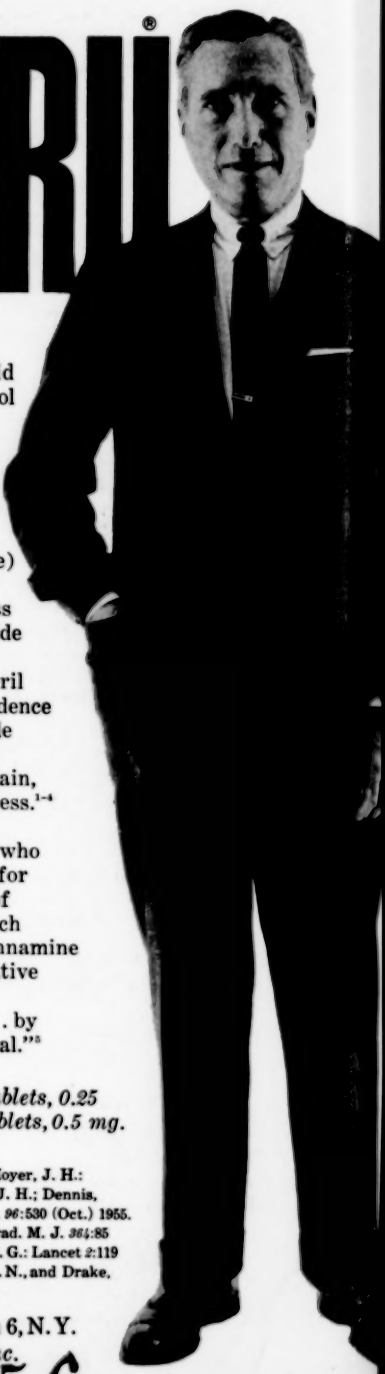

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